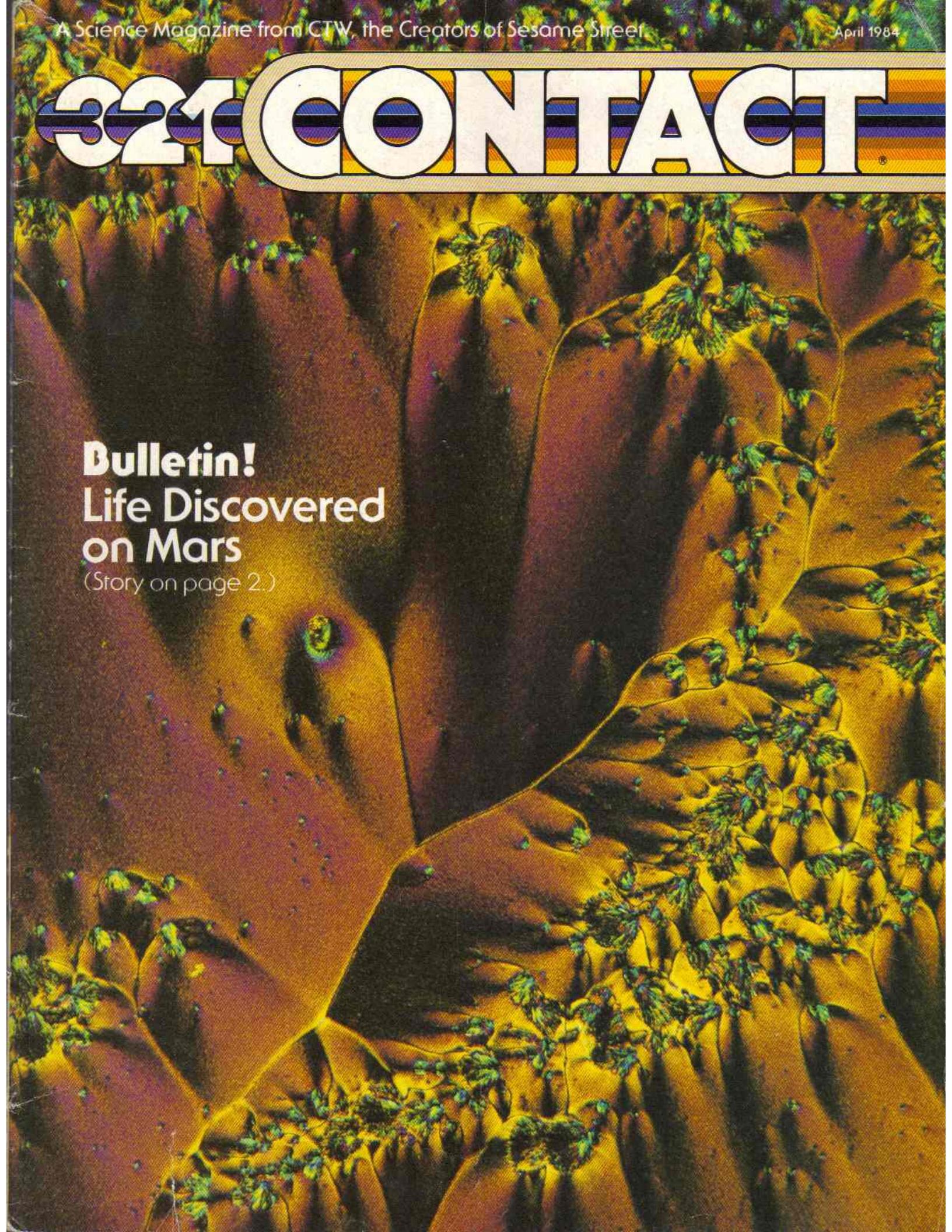
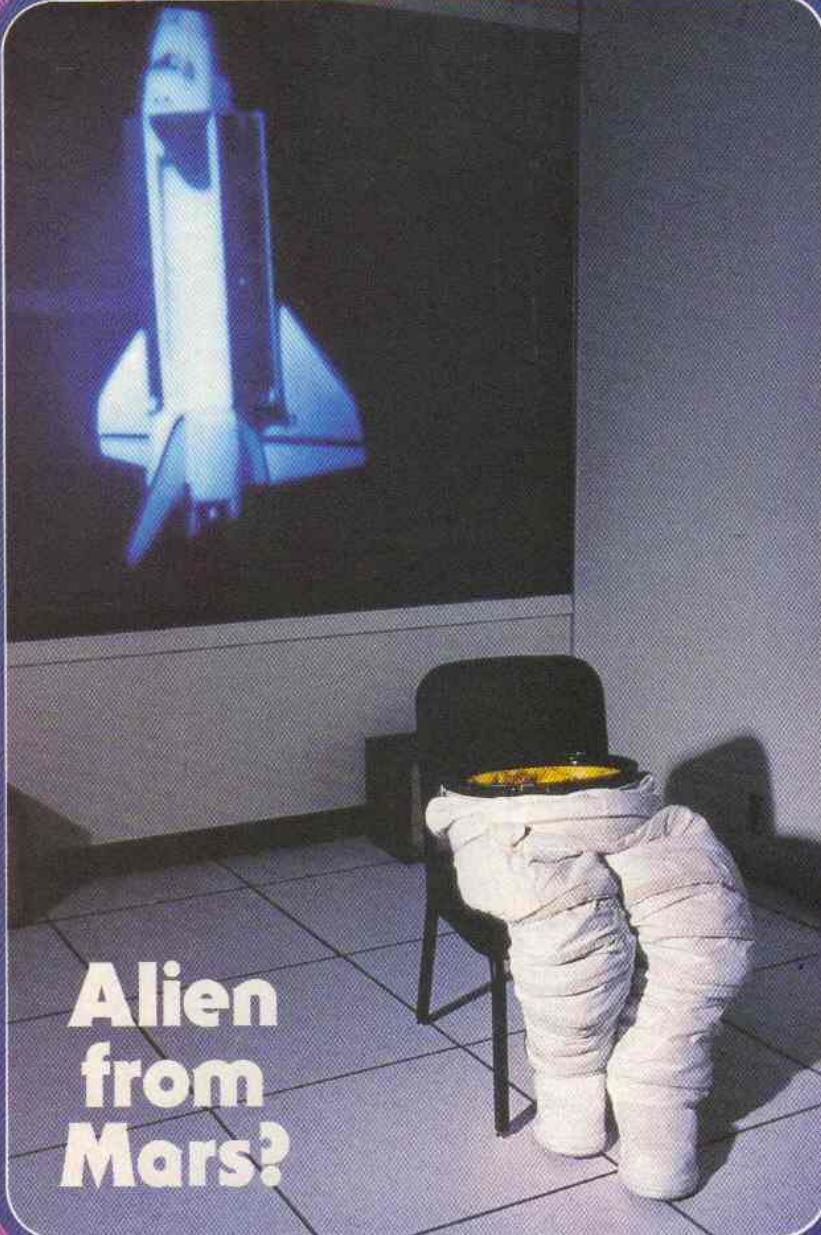


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Bulletin! Life Discovered on Mars

(Story on page 2.)





Alien from Mars?

Is this a life form that was discovered on Mars? An invisible being? Not quite. It's really the pants of a spacesuit that astronauts will wear on an upcoming space shuttle flight. You can read all about the flight beginning on page 24.

As for our cover discovery of life on Mars... April Fool! The cover photo is actually a close-up picture of a grain of ascorbic acid—vitamin C. It was taken with a special camera that magnified the ascorbic acid 35 times.

Our cover is one of the April Fools' pranks in this issue. You'll find others—both real and imaginary—on pages 4, 12, and 34. No fooling!

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Would you Believe It?

GREAT TRICKS THAT FOOLED

April Fools' Day is coming soon. Already people are thinking of neat tricks to play. But only a few folks have ever thought up a trick that could fool thousands of people.

These big-time tricksters have pulled off some amazing hoaxes—tricks on a grand scale. Some have fooled almost everyone—at least for a while. Mostly, tricksters do it to make money. Sometimes it's just for fun. Often, hoaxers use scientific-sounding "facts" to make their tricks seem more believable.

But true science teaches people to ask questions. Could that happen? Where is the evidence? Most hoaxes can't stand up to this questioning. When people check the facts, the hoax is uncovered.

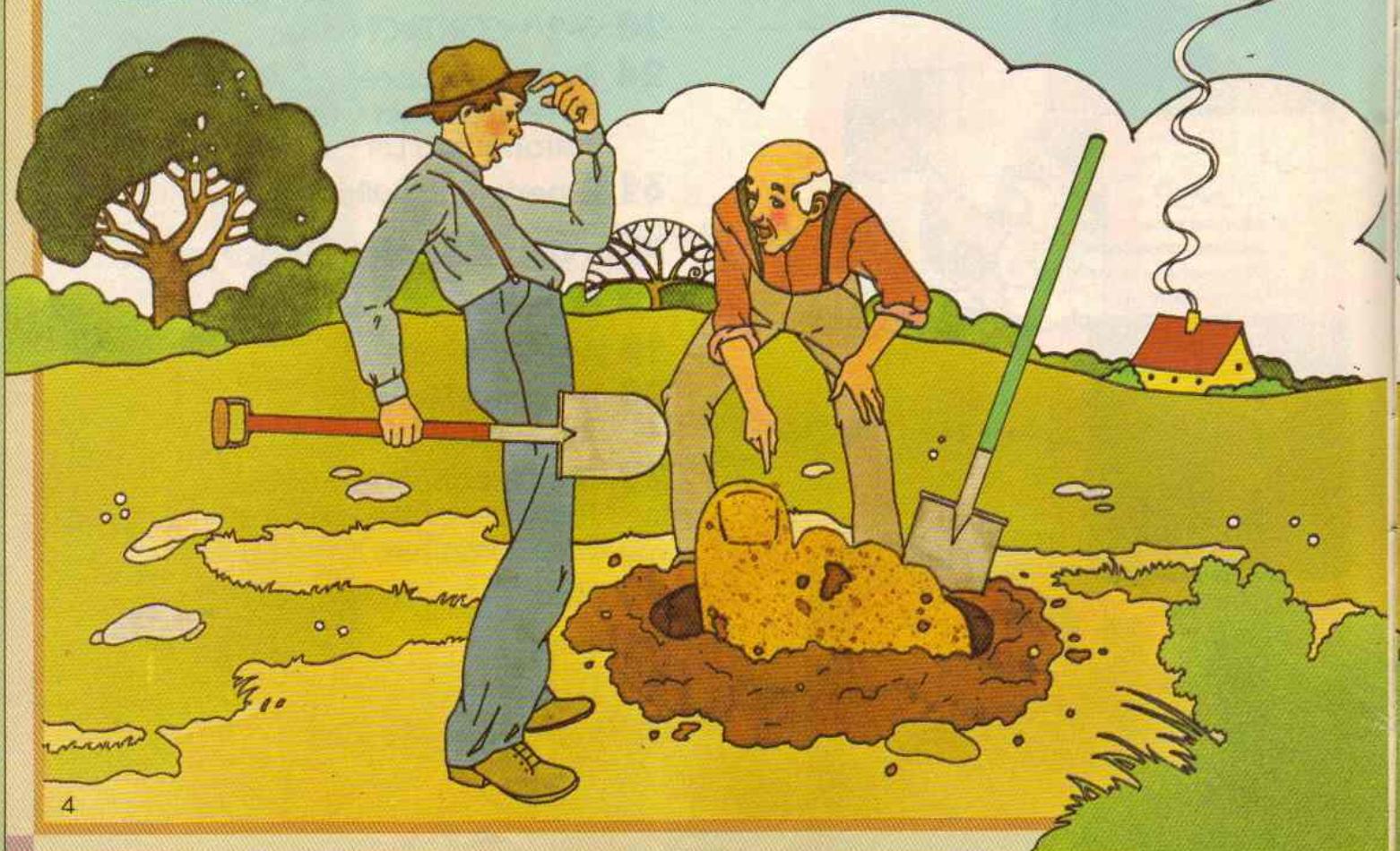
How about you? When you hear a story that seems true, do you ask questions? Do you check it out? What would you have done if you had come across these great hoaxes from history?

The Cardiff Giant

It all began in October 1869. Two workers were digging a well near the town of Cardiff, New York. Suddenly, their shovels struck something.

"Why, it looks like a toe!" one of them exclaimed. "A giant toe."

The men had dug lots of wells, but they had never found a giant toe before. Were they excited! They shoveled some more. By late afternoon, they had uncovered a giant. A twelve-foot-long man was lying in the dirt.



by Susan Meyers

THE WORLD

The giant was hard as rock. Stubby Newell, the farmer who owned the land, took one look at it and declared, "That's a fossil. This giant must have lived here a long time ago. Then he died, and his body turned to stone."

At that time, people didn't know much about fossils. But they had heard of scientists digging up animal bones that had turned to stone. So they figured the body of a giant could do that, too.

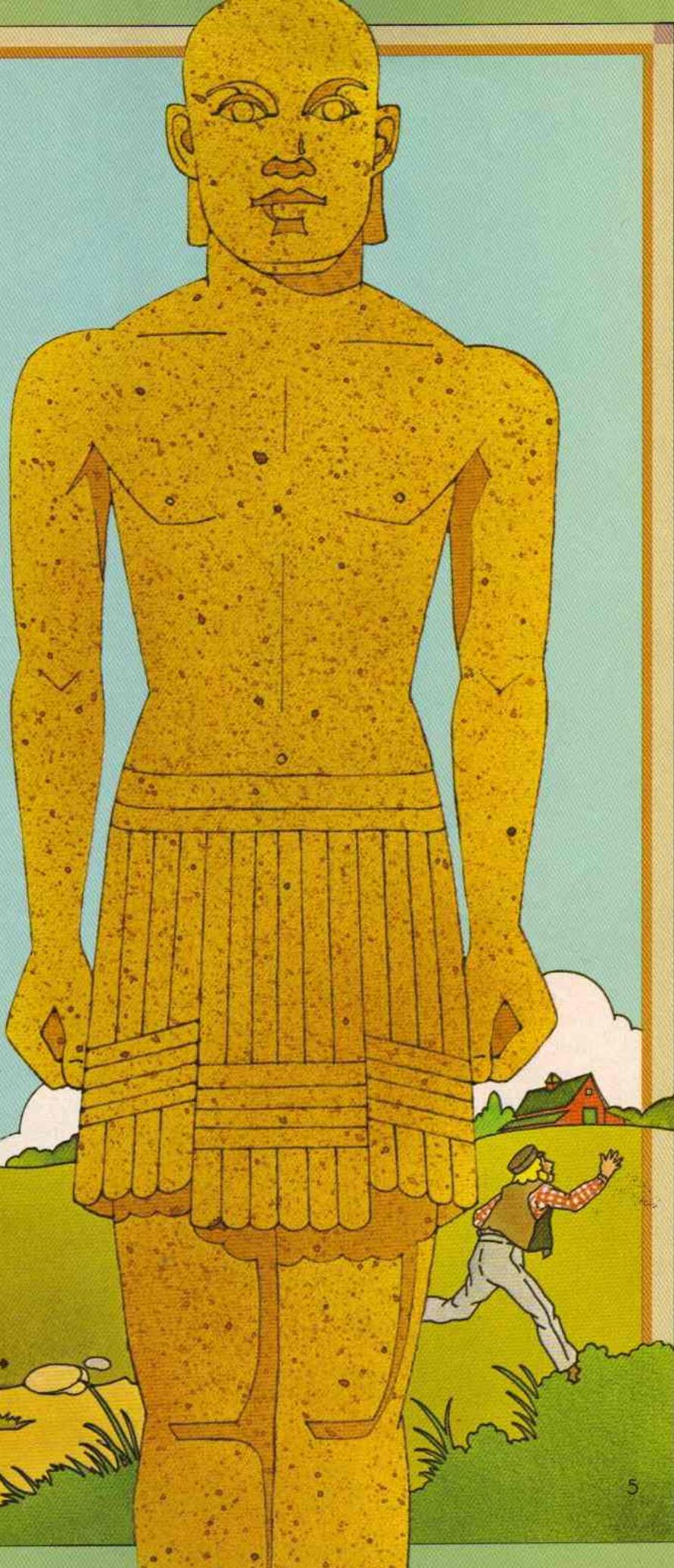
News of the discovery spread. Newell lost no time in putting a tent over the giant and charging people 50 cents to take a look. Tourists flocked to Cardiff. Stubby Newell made lots of money.

Then a scientist showed up. After studying the giant, he said, "That's no fossil. That's a statue carved out of rock."

At last the story came out. Stubby Newell and a relative, George Hull, had hired a stonemason to carve the giant. Then they buried it in Stubby's yard. Later, Stubby hired well-diggers to dig where the giant was buried.

George Hull then tried to make even more money from the fake. But he wound up being tricked himself. Phineas T. Barnum, the great showman, wanted to buy the giant for his New York City museum. Hull said no. He wanted to make money showing the giant himself.

So Barnum had his own copy of the Cardiff Giant made. By the time George Hull got to New York City with the "real" giant, people had already paid to see Barnum's copy. No one wanted to see another hoax! ➤





The Mechanical Chess Player

Computers can be programmed to play chess. But long before the computer, there was another kind of chess-playing machine. People didn't discover it was a fake for nearly 70 years.

Two hundred years ago, Wolfgang von Kempelen, an inventor, built the Chess Player. The machine looked like a man dressed in a strange-looking costume. This mechanical man was seated behind a chest with a chessboard on top. It played chess with anyone who wanted to play.

Von Kempelen wound up the player with a big key. The mechanical man then moved its arm over the board to pick up the chess pieces. As it played, people heard the sounds of wheels turning and gears grinding. In half an hour, the mechanical player almost always had won.

People knew that machines could do wonder-

ful things. But this was almost too good to be true. Some thought that a human player must be hidden inside. But where? The inventor always showed the insides of the mechanical man to the audience before the game began. He opened all the doors, revealing lots of gears and wheels. There seemed to be no place for a person to hide.

Much later, the inventor sold the Chess Player. The new owner took it to the United States. There, Edgar Allan Poe, the famous writer, saw it. He was sure that a human was inside.

Poe figured that if the chess player was really a machine, it would never lose a game. He wrote an article about the invention and showed exactly how a person could be hidden inside.

A year later, in 1837, a newspaper reporter discovered that Poe was right. There was a human player inside the chest.

Life on the Moon

Today, people know there's no life on the moon. But back in 1835, people weren't so sure.

One day in August of that year, a New York City newspaper, the *Sun*, printed an amazing story. It said that Sir John Herschel, a famous scientist, had built a gigantic telescope. He had pointed his big new telescope at the moon. Lo and behold, he had found weird and wonderful forms of life. There were giant apes with bat wings. There were also buffalo, strange plants, and even a unicorn! Readers could hardly wait to buy the next day's paper.

For seven days, the story continued. Each episode told of still more wonders on the moon. By the end of the week, the *Sun* was selling more

papers than any other newspaper in New York City.

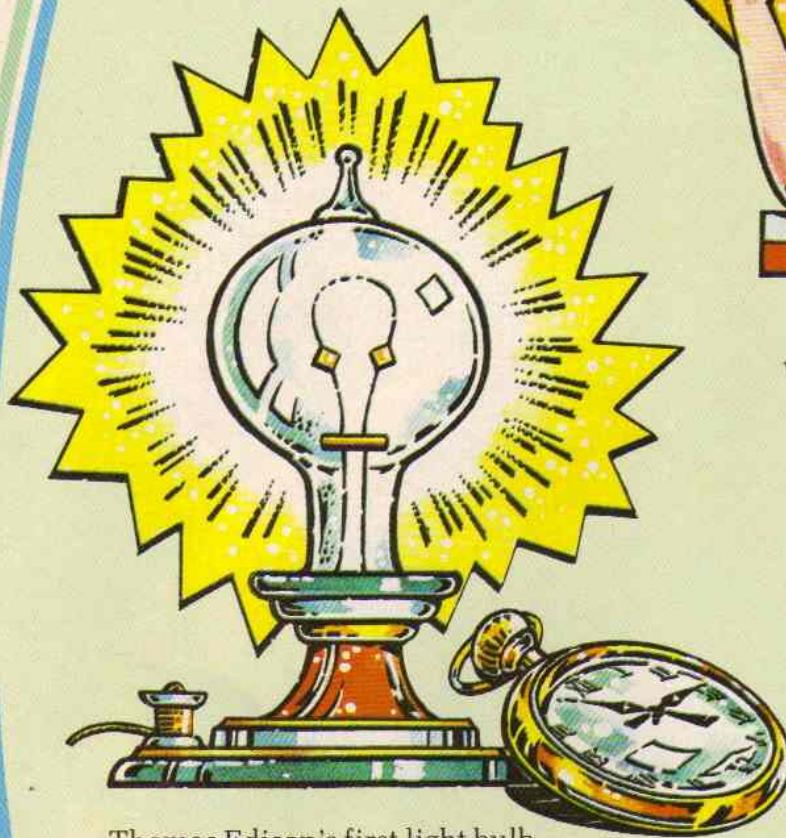
Soon eager scientists asked the newspaper for more details on Sir John's discovery. The *Sun* sent them to its reporter. At first, the reporter refused to talk to the scientists. But then he confessed. He had made up the story to sell more papers. And it worked.

Surprisingly, Sir John Herschel wasn't angry about the hoax. When word of it reached him, he thought it was pretty funny.

These oldtime tricksters celebrated April Fools' Day all year. Modern tricksters do, too. So don't believe everything you read—especially if it's about "The Return of the Cardiff Giant"! Someone is probably pulling your leg!



Factoids

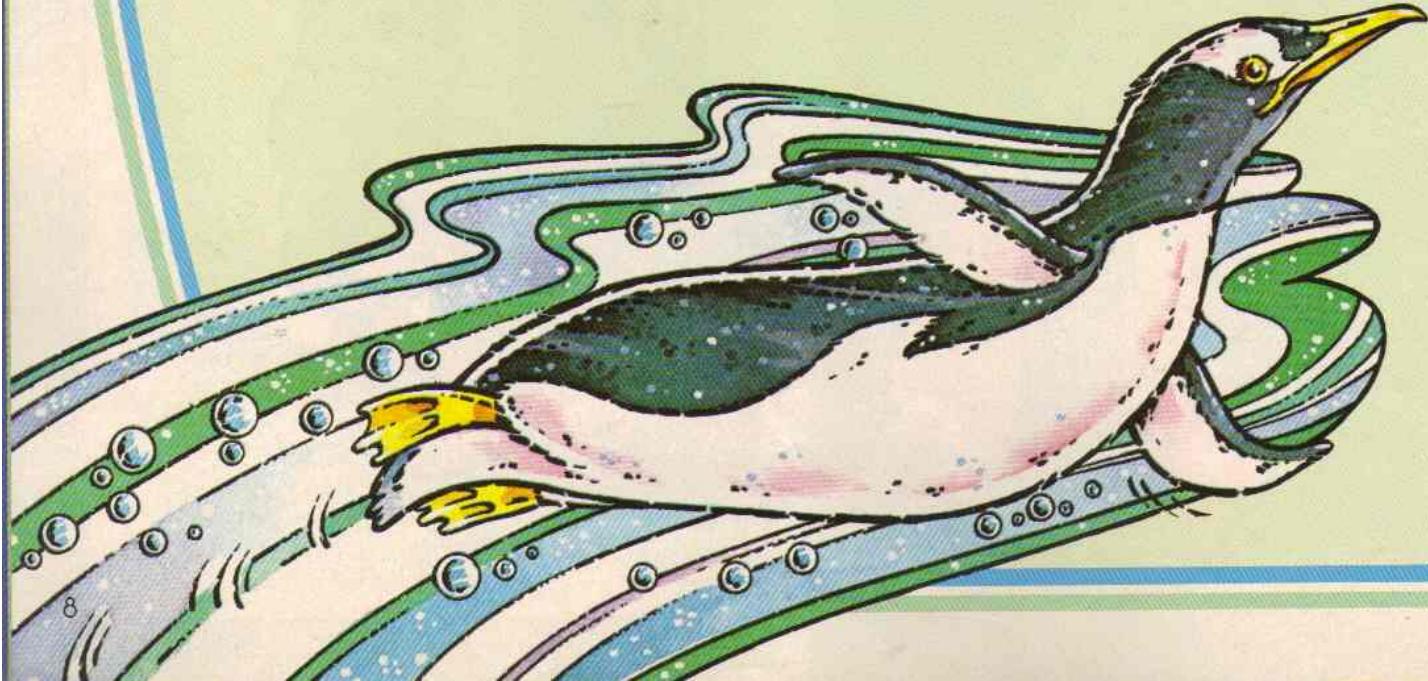


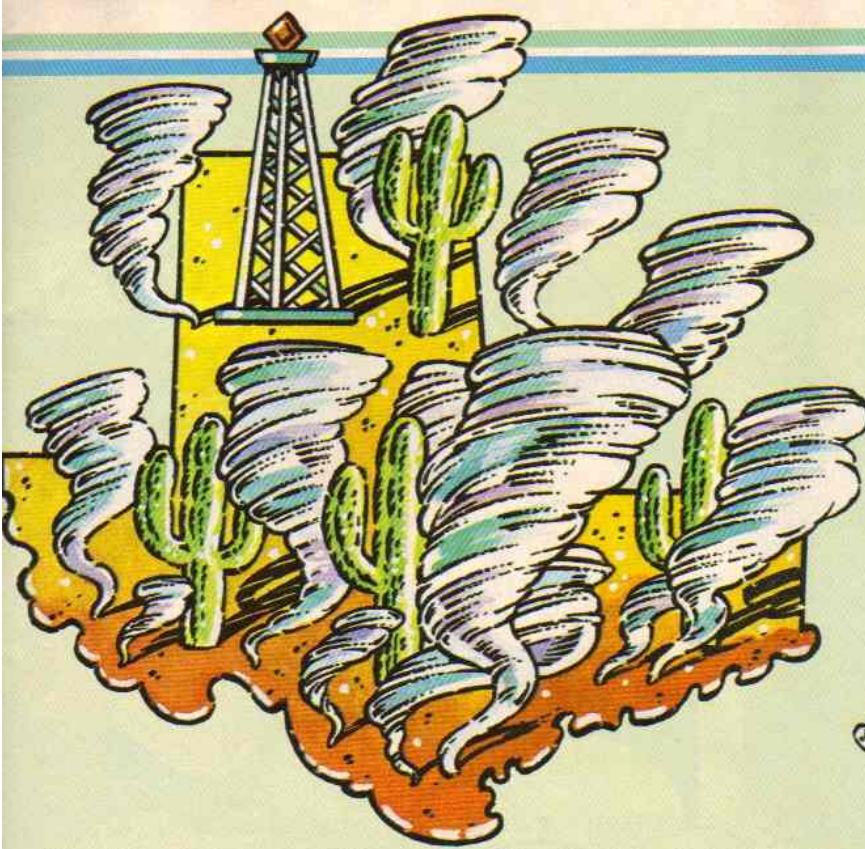
Thomas Edison's first light bulb
burned for 45 hours.



Donna Maiello set a record
when she ate 300 feet of spaghetti
in 27 $\frac{3}{4}$ seconds.

The fastest-swimming bird
is the Gentoo penguin
of Antarctica. It swims
about 25 miles per hour.

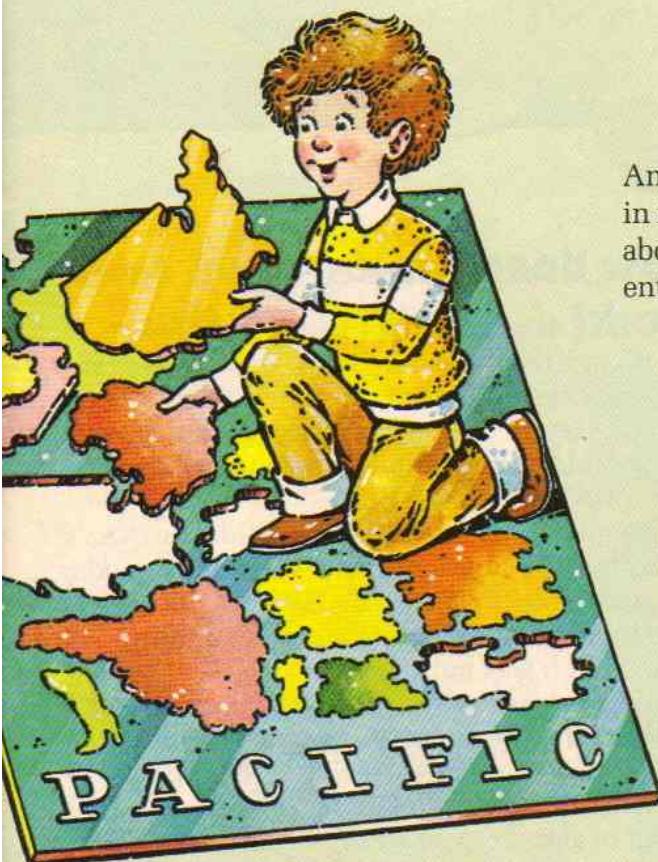




Texas has more than 100 tornadoes a year—
more than any other state.

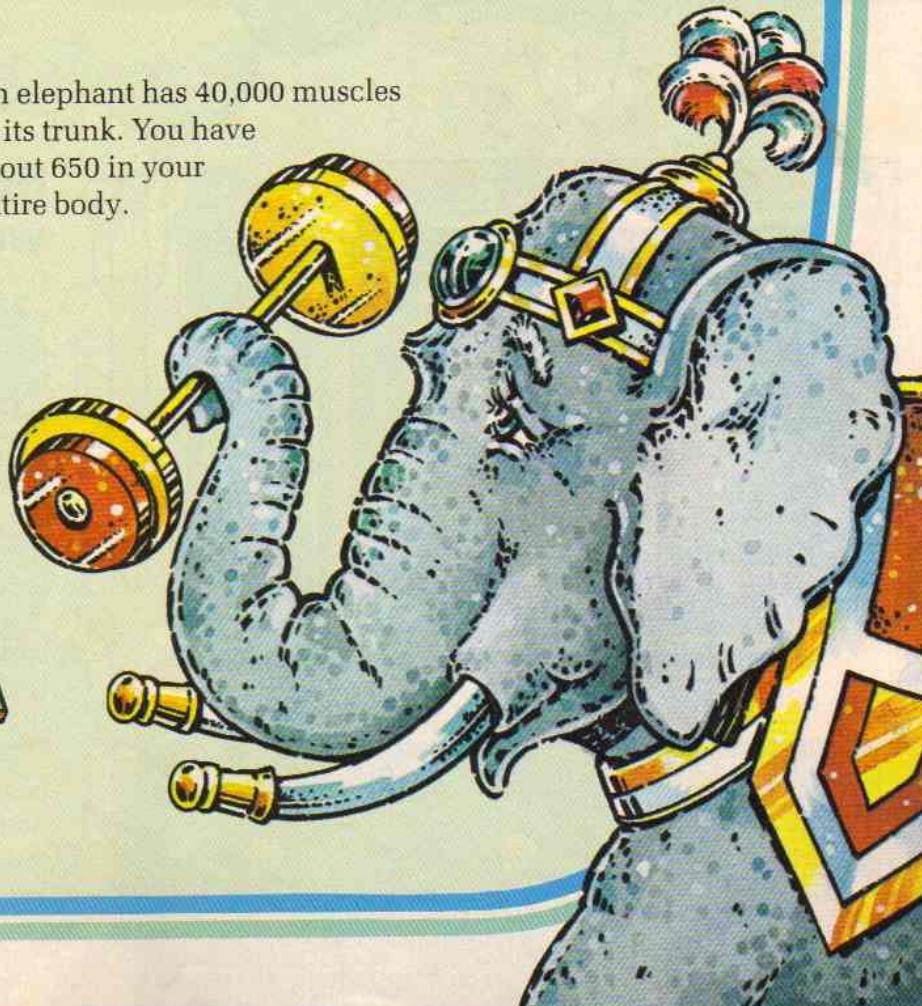


There are more than 200
layers of yarn rolled around
the center of a baseball.



The Pacific Ocean is so large that all the
land on earth could fit within it.

An elephant has 40,000 muscles
in its trunk. You have
about 650 in your
entire body.



Any Questions?

by Mary Tota

Why do your ears get clogged in an airplane?

Even though you can't feel it, air is always pressing against you. At the same time, the air in your ears is pressing outward with the same force.

But in a plane, as you go higher and higher, there is less air outside to press on you. In other words, the air pressure gets lower. Meanwhile, the air pressure in your ears stays the same. This difference causes your ears to clog.

To help you get used to the change in air pressure, you have a special tube that passes from the ear down to your throat. This little tube adjusts the flow of air to your ear.

When you're in an airplane, though, your ears can't adjust fast enough to the quick climb or drop in altitude. Your ears may feel clogged, and they may even hurt. To solve the problem, try swallowing, yawning, or chewing gum. These all make the end of the special tube open. The air will escape, and your ears will feel fine.

Question sent in by Jamie Johnson, Houston, TX.



How does a microwave oven work?

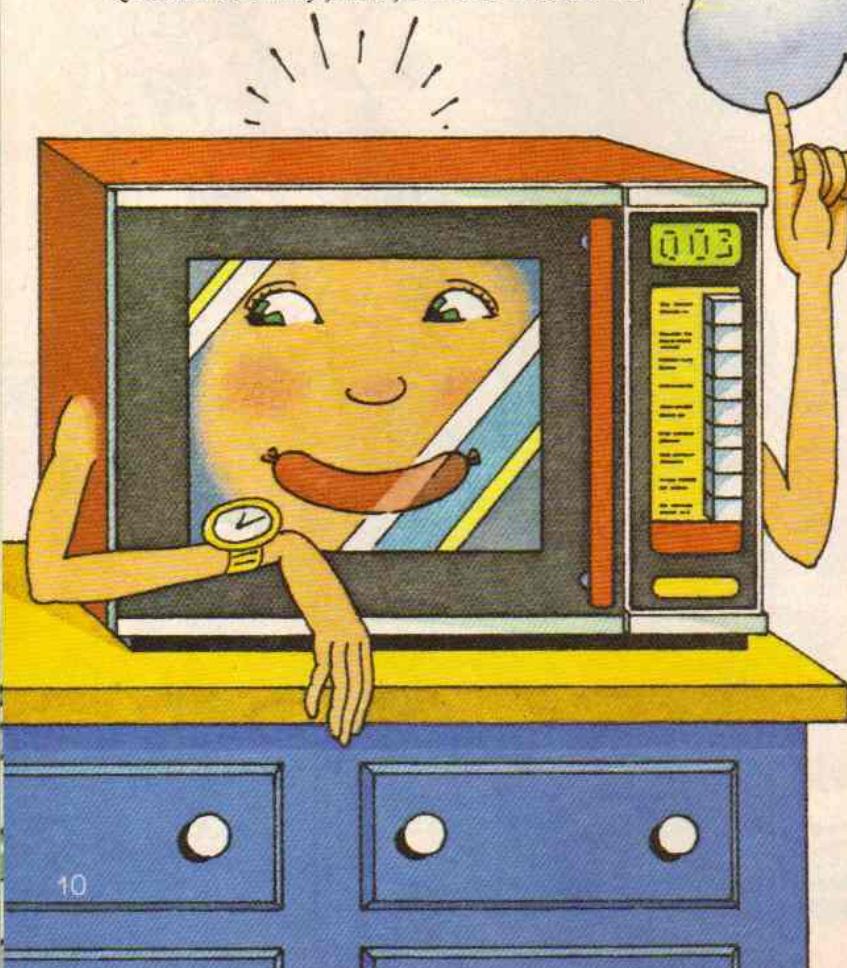
It would take 45 minutes to bake a potato in a regular oven. But a microwave oven can bake the same potato in three minutes. The speedy service of a microwave oven is the result of invisible waves called—you guessed it—microwaves.

The microwaves travel from inside the oven's machinery to your food. The water in the food absorbs the microwaves. This makes the water heat up. The heat travels to the surrounding food, which gets hot very quickly.

In a regular oven the cooking action is much slower. First the surface of the food heats up. Little by little, the heat travels to the center of the food. Finally, the potato is baked.

But in a microwave oven, the microwaves heat the water throughout the food all at once. So the potato gets cooked instantly—inside and out. How's that for fast food!

Question sent in by Tara Mandaillo, Westfield, NJ.



Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?
3-2-1 CONTACT
P.O. Box 599
Ridgefield, NJ 07657

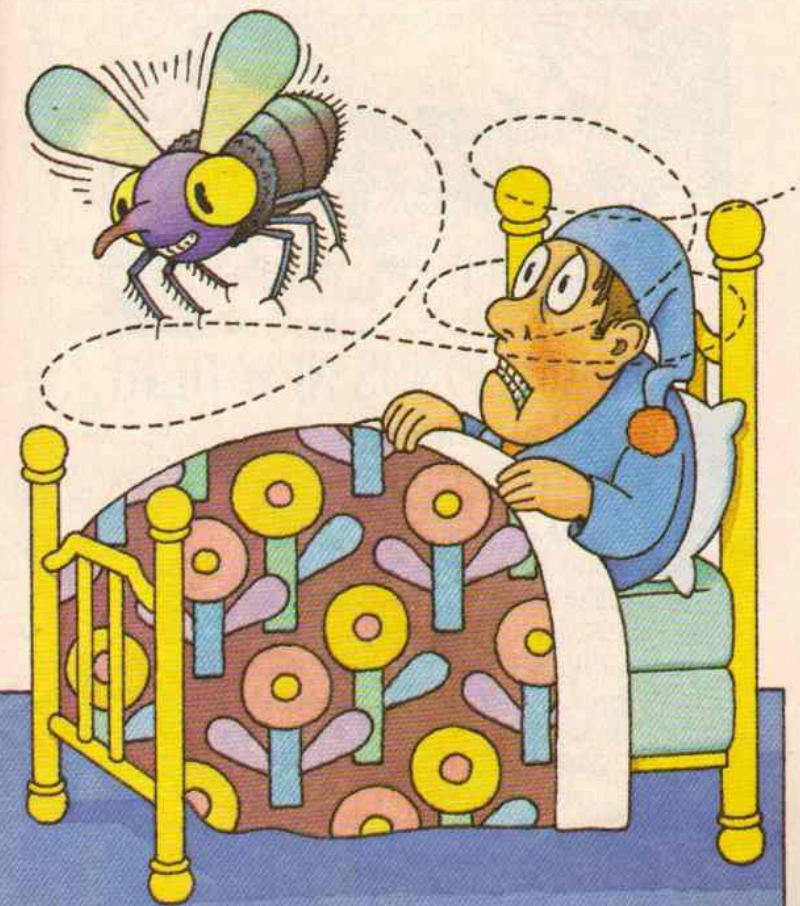
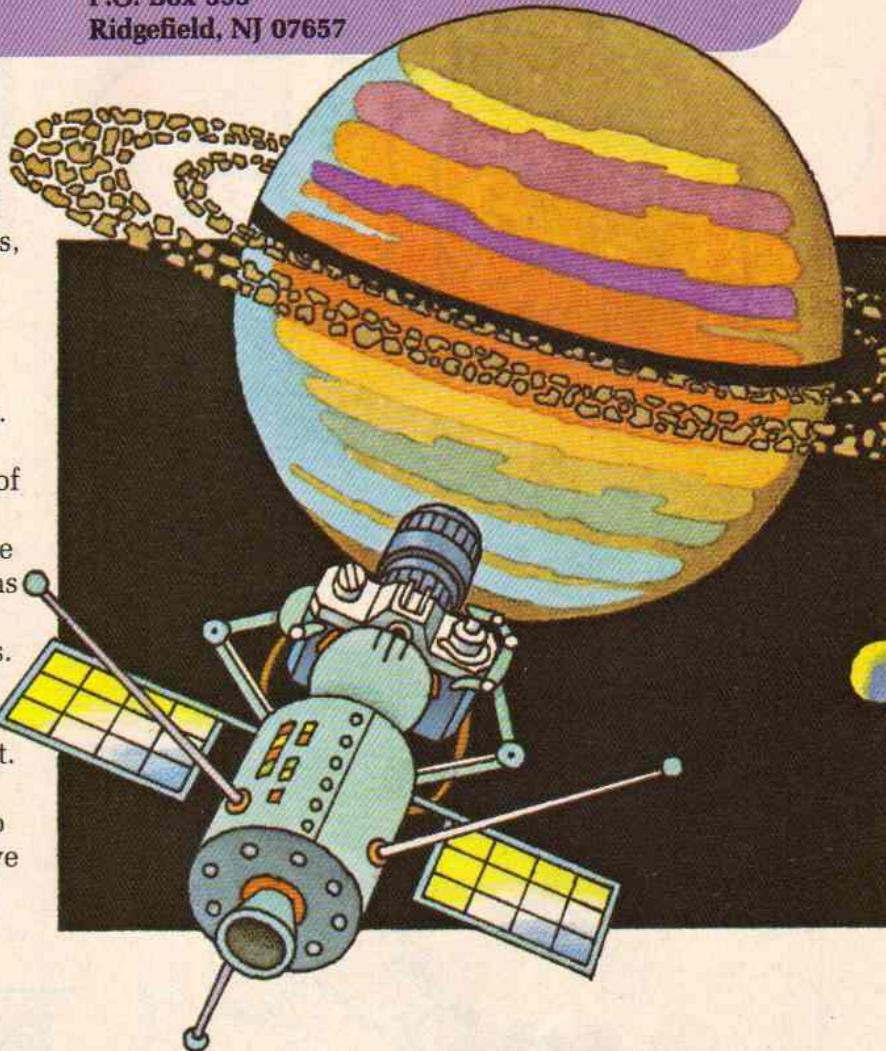
How did Saturn get its rings?

From earth, using the most powerful telescopes, astronomers can see four rings around Saturn. Without a telescope, you can't see the rings at all. To the eye, the planet looks like a star.

But when the spacecraft Voyager 1 reached Saturn in November 1981, it sent back pictures. Never before had Saturn been seen so clearly. The pictures showed that there are thousands of rings orbiting Saturn. They are made up of pieces of ice and ice-covered rocks. Some of the chunks are bigger than a house. Other bits are as tiny as grains of sand.

No one is really sure how Saturn got its rings. The rings might be material that never came together to form a moon. Or they might be the leftovers of a moon that once orbited the planet. Maybe the moon got too close to Saturn. The planet's gravity could have caused the moon to break apart. The pieces of the moon would have orbited the planet until they formed rings.

Question sent in by Robin Carrol, Cardington, OH.



Why do houseflies make a buzzing sound?

If you've ever tried to sleep with a fly in the room, you know how annoying that buzzing sound can be. But did you ever notice that a fly only buzzes when it's flying?

The buzzing noise made by a fly is actually the sound of its wings beating. The wings move so quickly—about 200 times a second—that their vibrations make the fly buzz.

You've probably also heard a mosquito buzzing before it took a sip of your blood. Just like flies, mosquitoes buzz because of their flapping wings.

Bees are another example of buzzing insects. In fact, bumblebees are named for the sound they make. The word bumble comes from an old word that means humming. When bees flap their wings, a very loud buzzing sound is produced. Now that's a real hum-dinger!

Question sent in by Ellen Moontsikaris, Boston, MA.

The April Fooler

A TRICK OR TRUTH QUIZ

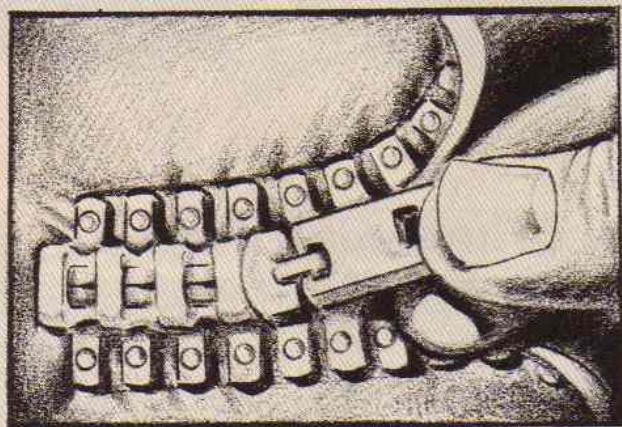
by Bill McCoy

Sometimes ideas may seem unbelievable. But often they're for real. That's because in science, the truth can be stranger than fiction.

But if people didn't ask crazy questions and try out unbelievable-sounding new ideas, the world would never advance. People would never have rocketed to the moon. There wouldn't be any bubble gum!

Can you figure out which of these newspaper articles are April Foolers and which are unbelievable-sounding—but true?

Answers on page 37.



Doctor Zips Up Patient

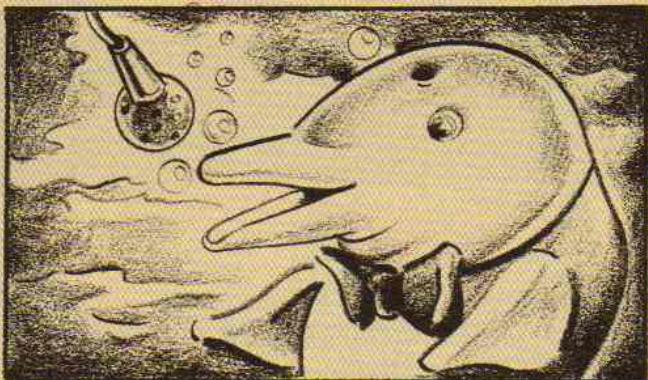
Oak Park, IL—A thrilling new invention will soon save doctors and patients thousands of stitches.

The Dermizip, invented by Dr. Joseph Sheehan, is a zipper for the skin. It's made of two plastic strips.

Doctors attach the strips to the skin on

either side of a deep cut or wound. When a plastic sleeve is pulled over the strips, they zip together.

"Dermizip holds wounds together more firmly and gently than regular stitches," says Dr. Sheehan. So the resulting scar is thinner and lighter.



Dolphins Demand Fresh Fish

Honolulu, HI—According to Dr. Alice Z. Whaler, dolphins do talk. After years of study, Dr. Whaler finally made her discovery when she put several microphones in the ocean. They were wired to a computer on land. Whenever dolphins near the microphones made noise, the computer recorded it. Slowly, Dr. Whaler gathered the proof she needed. "After three years of studying the sounds of dolphins, we made the big breakthrough at feeding time," she says. "According to the computer, the dolphins complained that they wanted fresher fish."

Dr. Whaler porpoisefully talks to the dolphins every day. What do they say most often? "More fresh fish, please, and hold the ketchup."



PLUMBER FINDS NEW DINO

Surrey, England—A plumber hunting for fossils has dug up a new kind of dinosaur.

Up until last year, Bill Walker, 55, had made most of his discoveries in pipes and sinks. But last year, Walker found a foot-long dinosaur claw. That may not sound like much, but it really is a big deal!

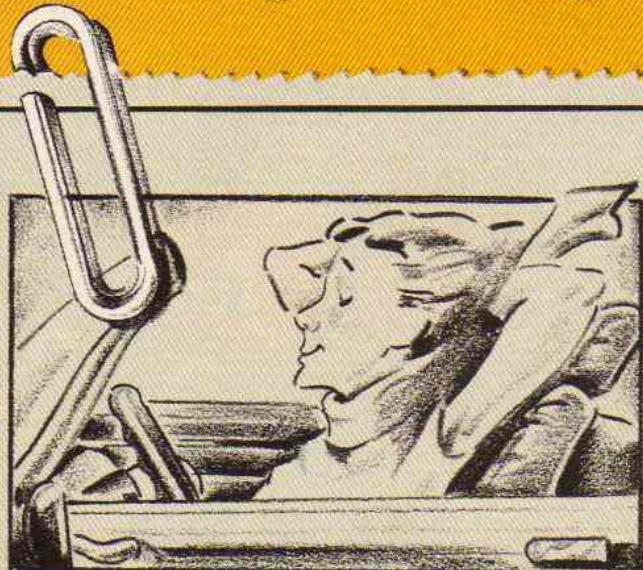
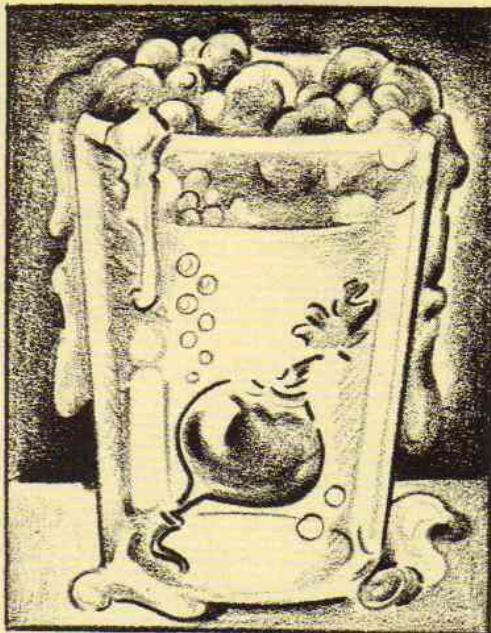
The claw came from a dinosaur that was unknown until then. Its claw is twice as large as the claw of one of the biggest dinosaurs—Tyrannosaurus Rex. The new dino, says a museum official, may have had big feet. But it was only half the size of the Tyrannosaurus.

New Radish Invention Solves Pollution Problem

Cambridge, MA—A new invention is proving that radishes can do more than top a salad. They can help clean dirty water. Water with poison in it—toxic water—is a big problem. At the Love Canal in New York, people had to leave their homes when toxic water was making them sick.

Now scientist Alexander Klibanov has

invented a way to clean toxic water. He uses radishes and hydrogen peroxide. When radishes and the chemical are mixed, another chemical is released. In toxic water, this chemical turns some poisons from liquids into solids. The solids fall to the bottom of the water. In just a few hours, poison water becomes clean water.



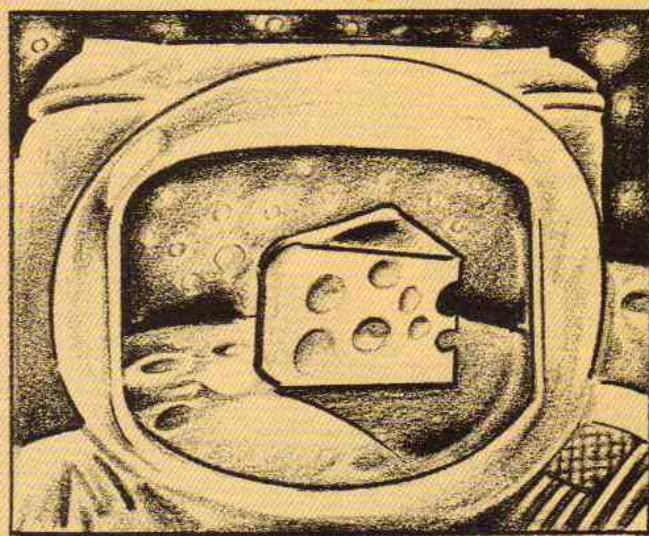
COMPUTER DRIVEN CARS TAKE TO STREETS

Detroit, MI—An advanced computer is being tested that will change the way Americans travel. The computer will let people drive a car without really driving.

The invention, called Brake and Byte, is the work of Otto Mobile. The computer fits on the dashboard. "Instead of driving with a wheel, you push some

buttons," says Mr. Mobile.

Before the trip, just punch in where you want to go. A map programmed into Brake and Byte tells the car the quickest route. Special sensors keep passengers safe from other cars and road dangers. "It's the car of the future," says Otto Mobile, "but it's happening today."



Lunar Limberger Lands in Houston

Houston, TX—Living organisms were recently found on rocks from the moon. Dr. Herb Fumble, an astronomer at the NASA space center here, made the important find.

One day Fumble was studying the rocks in their special case. He noticed that they had changed color—from gray to green. When he took a closer look with his microscope, he saw the first life ever discovered from outer space.

"It looked like mold," reports Fumble. "So I named it Fumble's Fungus."

The fungus's closest relative is green mold that attacks cheese. Can the old story that the moon is made of green cheese be true? Only the man-in-the-moon knows for sure!

Smooth Sailing

This month, Earth Works is all about islands. Here's your chance to explore some islands yourself. In this game for two or more players, you will try to get from START to FINISH in the fewest moves possible.

How to Play

1. Each player gets a different color marker or crayon. You also need a piece of paper to keep score.
2. Taking turns, put your pencil point on the star at START.
3. Now comes the hard part. Close your eyes! Draw a line from START to island number 1. You must land on the star.
4. When you think you're there, open your eyes. If you didn't land on the star, close your eyes. Try

again from where you stopped. Your turn is over when you reach the star on the island.

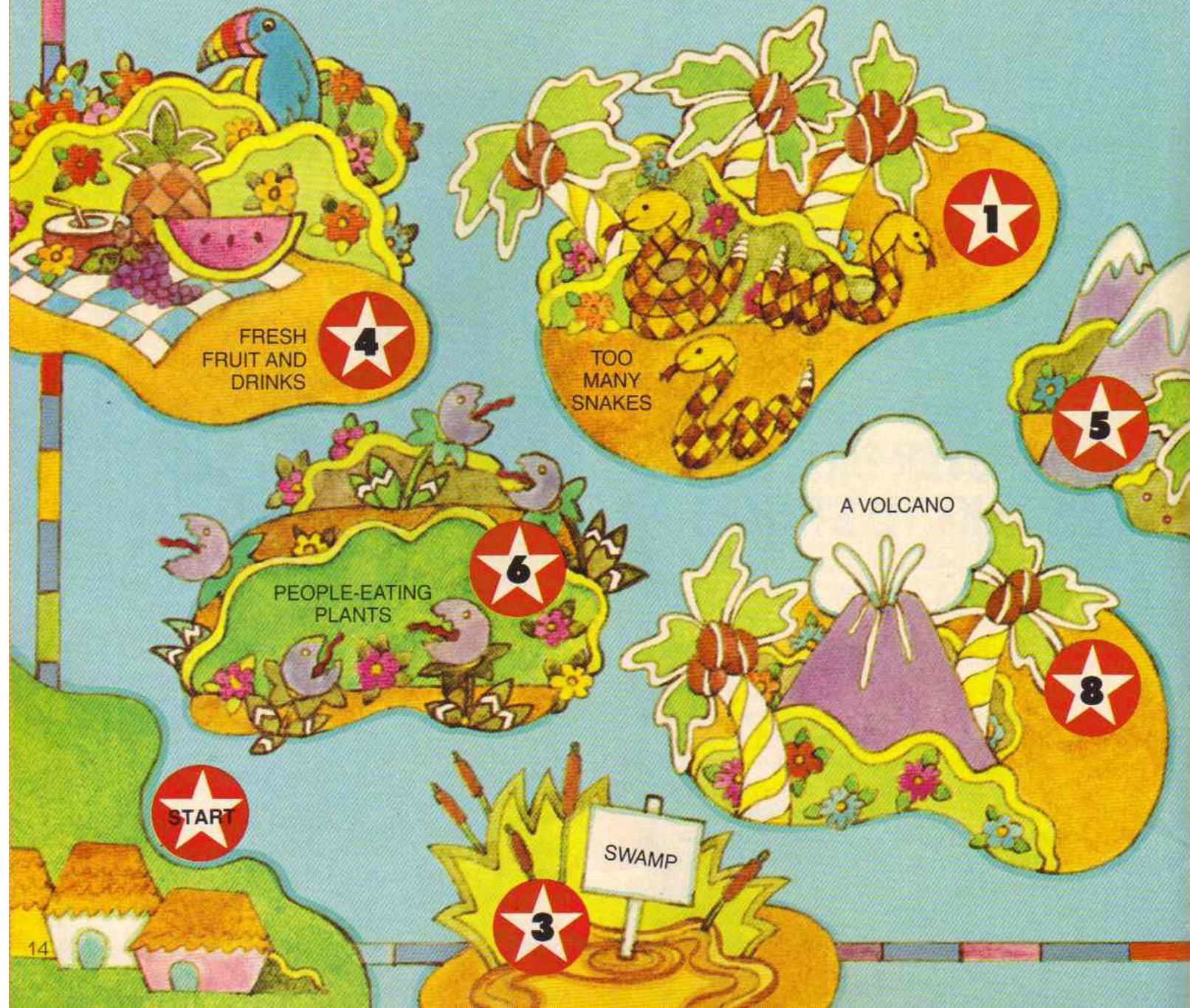
5. Go in order from island number 1 to FINISH. Each time you stop and open your eyes counts as one move. Write down how many moves you make after each turn.

How to Win

When everyone has reached FINISH, count the total number of moves it took you to get there. The player with the LOWEST total wins.

Play It Again

If you want to play more than once, just get different color markers or crayons. Then keep track of the new colors.



AN ISLAND FANTASY GAME

OH NO!
ANOTHER VOLCANO!

11

FIERCE BEASTS

7

SAFE HARBOR

FINISH

ALL YOUR DREAMS COME TRUE



2

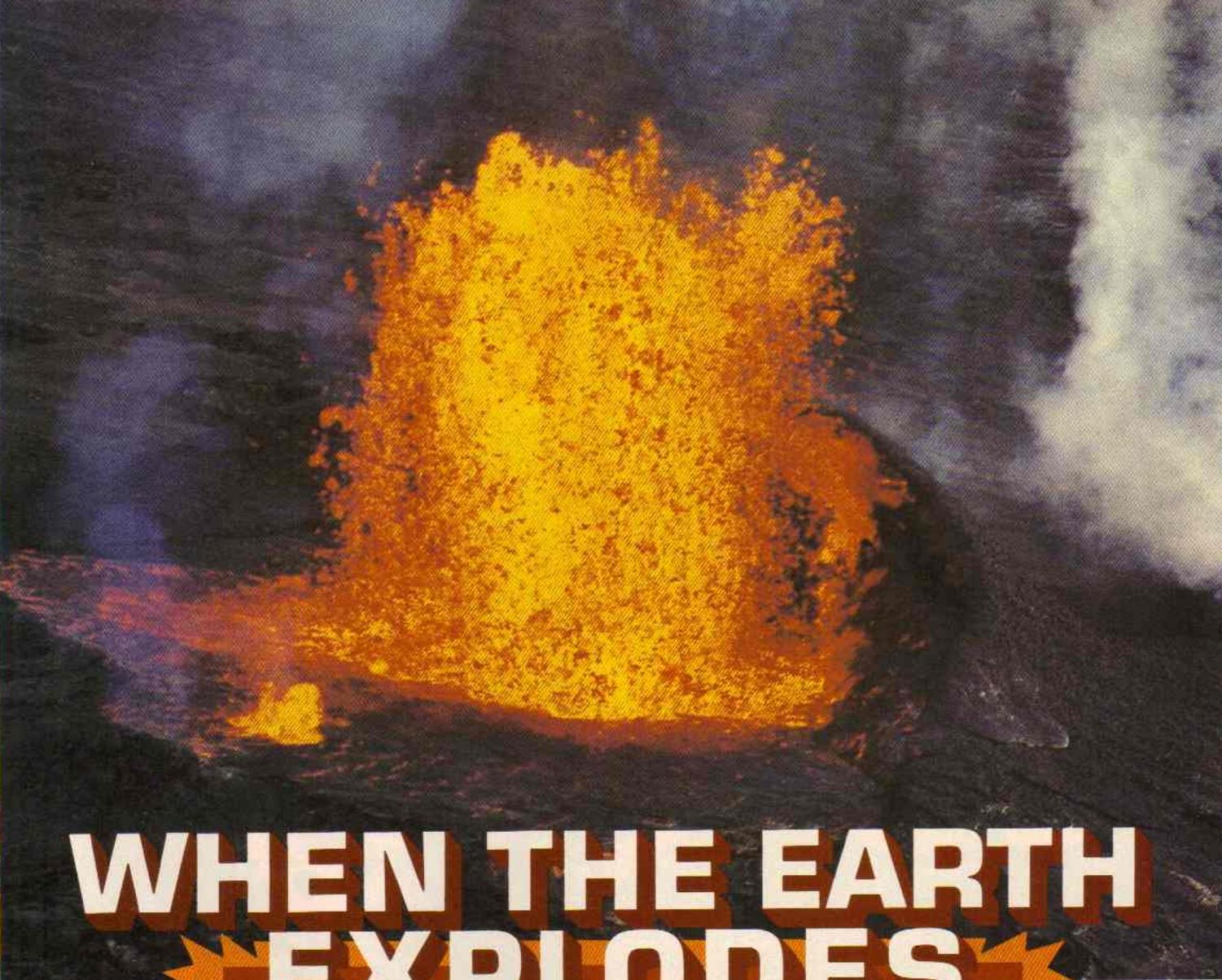
FALLING COCONUTS

10

FRIENDLY PEOPLE

Havey

15



WHEN THE EARTH ★ EXPLODES ★

VOLCANO WATCHERS GO TO WORK

by Fred Gebhart

On a warm spring day, early morning visitors were already exploring Hawaii Volcanoes National Park. They were walking over crunchy lava rock and looking at ancient craters. Even though the people were close to a volcano, they felt safe. But soon they would see more of that volcano than they had ever expected.

"I felt the first earthquakes about 8:45 A.M.," remembers a park ranger. "At 8:55, the call came to close the road around the crater." Two and a half hours later, the ground broke open. Kilauea (Kill-ah-WAY-ah) volcano began spewing fiery streams of red-hot lava.

Park visitors were surprised by the eruption.

But thanks to a team of nearby scientists, no one got hurt. The scientists work at the Hawaii Volcano Observatory (HVO). It is the world's oldest volcano research lab. Perched on the rim of Kilauea, its scientists predict when the volcano will blow its top.

Because these researchers are experts at their work, no one has been hurt by an eruption for many years. Kilauea can start forest fires or burn houses. But the HVO team's forecasting ability helps limit the damage that the volcano can do.

Watching and Waiting

"Most volcanoes erupt, then lie quiet for many years, but not Kilauea," explains Reggie Okamura,

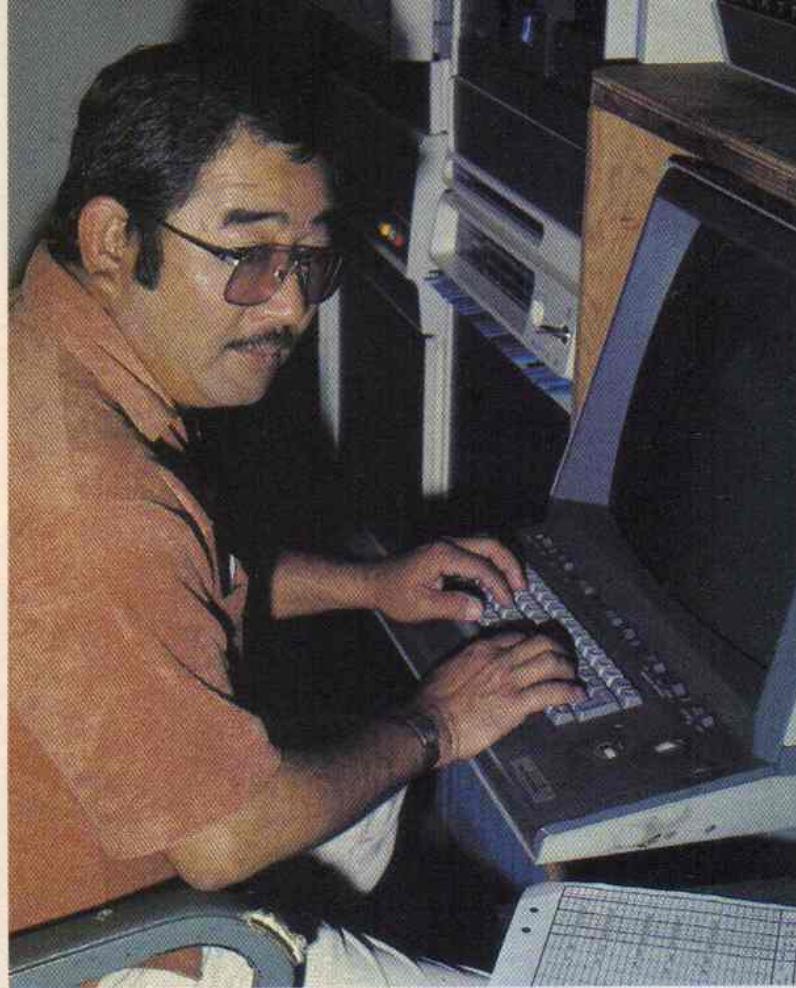
an HVO scientist. "It's the most active volcano in the world."

"A volcano never erupts without warning," says Okamura. He has been studying Kilauea for 25 years. "It's up to us to understand the warnings." Reggie Okamura and other HVO team members are volcanologists (vol-kuh-NOL-uh-jists). By studying Kilauea, they are learning to predict when this volcano will erupt. What they learn here helps other scientists predict when volcanoes will erupt in other parts of the world. This has helped to save many lives.

Before Kilauea's eruption on that spring morning, the HVO team had been watching the volcano night and day. But there wasn't much for them to see on the earth's surface.

The first signs of the coming eruption actually occurred miles underground. The volcano watchers used special instruments to track the

Right: Reggie Okamura is the leader of the volcano watchers' team at Kilauea. He uses computers to help predict when the volcano will erupt.



Left: Volcano watchers from the Hawaii Volcano Observatory (HVO) approach the volcano's crater to collect samples of the gases it spews out.

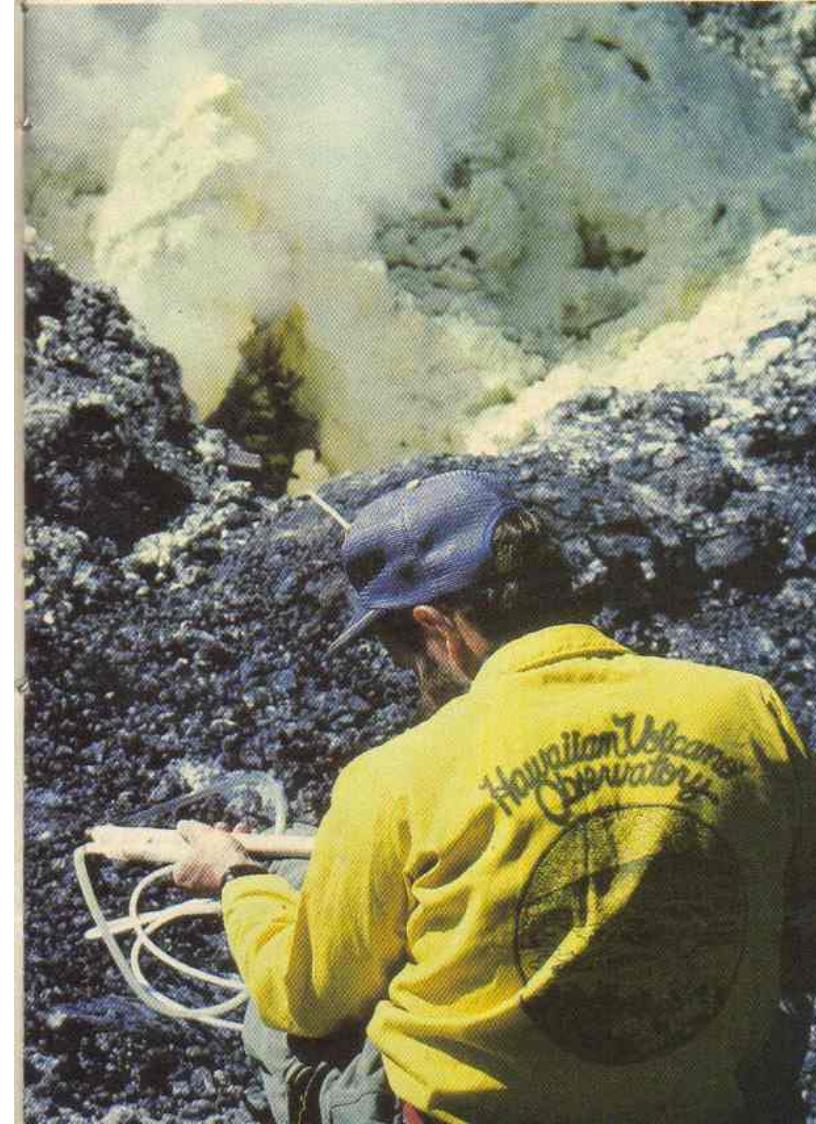
movements of liquid rock deep inside the earth. Liquid rock is called magma.

Tilt!

The HVO team noted another early sign of the coming eruption. Rock was bulging from Kilauea's crater to make way for the rising magma. The crater was inflating like a slightly blown-up balloon. This bulging is called tilt. The greater the tilt or bulge of a volcano, the bigger its coming eruption will be.

To measure tilt, Reggie and the HVO team used an instrument called a tiltmeter. It is very sensitive. If you were to put a dime under a board 3,000 feet long, a tiltmeter could measure the slight difference in the board's angle.

The volcano watchers used another instrument, a seismograph (SIZE-mo-graf), to help predict where the eruption would take place. Seismographs detect and record earthquakes. Forty-six of these instruments cover the island of Hawaii. They pinpoint every earthquake that takes place, even ones you can hardly feel. ➤





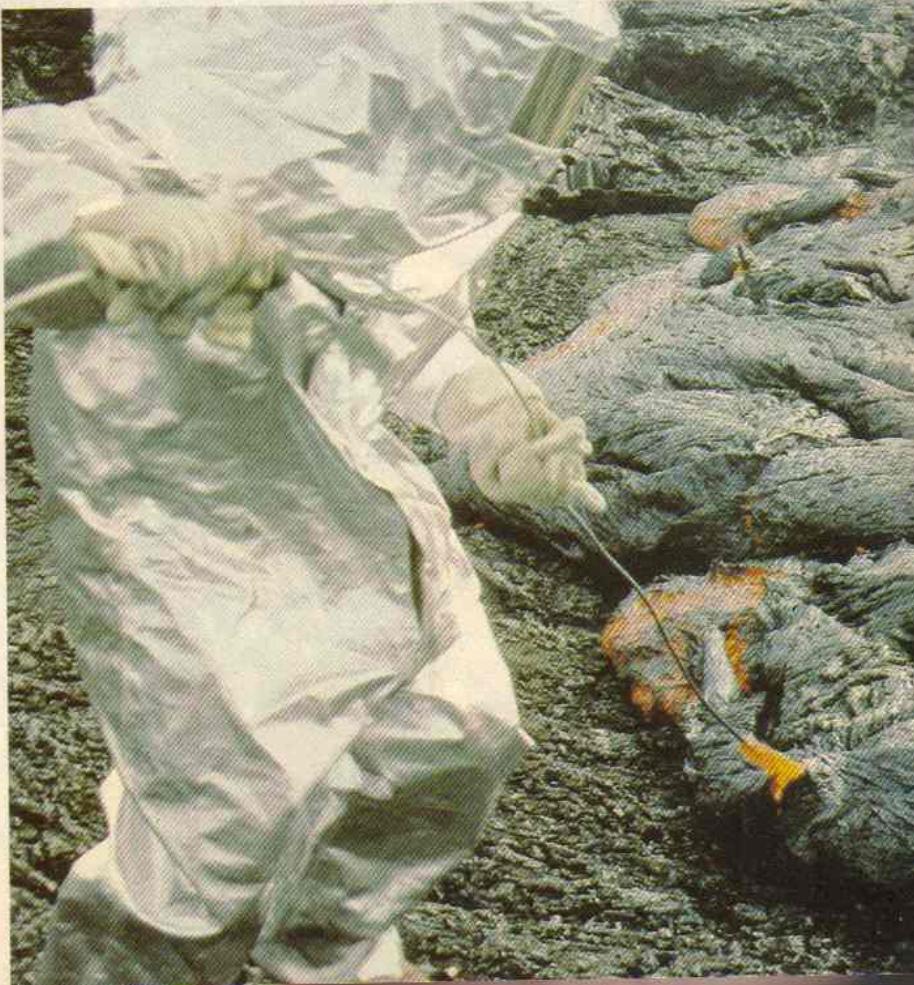
Above: Kilauea often shoots fountains of fiery lava, rock, and ash as high as 1,500 feet into the air.

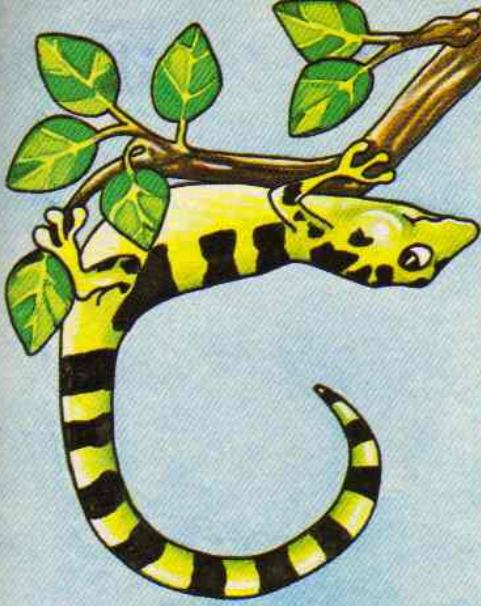
Right: This shiny metal suit protects the researcher from the intense heat as he collects lava samples.

Before the eruption, the quakes moved closer to the surface along with the rising magma. "We traced magma through the moving quakes," explains Fred Klein, another member of the volcano watchers' team. He knew that an eruption was coming very soon. Kilauea was going to blow.

Eruption

"The quakes tell us exactly which part of Kilauea's crater will erupt," Reggie Okamura says. "Then we call the park officials to suggest safety measures." In this case, a road had to be closed. At other times, people must be moved back for safety.

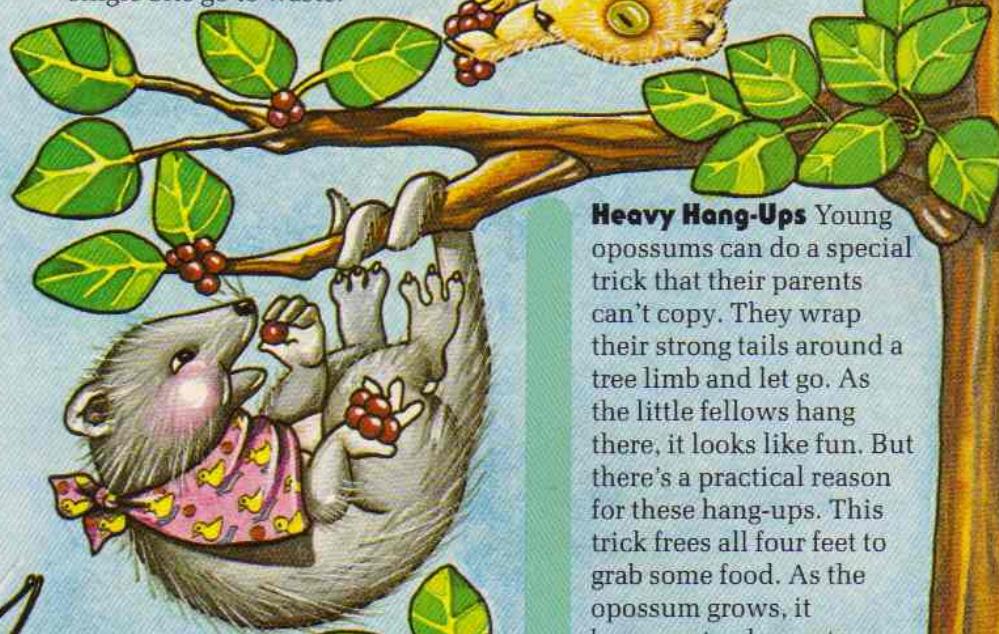




Feet First The small furry Australian cuscus likes to hang upside down while it eats. This animal doesn't fool around when it's time for chow. It wraps its rough, scaly-edged tail around a tree branch. Safe and secure, it is free to gobble up leaves and fruit with all four feet. Even its hind feet have thumb-like toes to hang on to dinner. This animal doesn't let a single bite go to waste.



Feet of Glue Ever watch a fly buzz around your room? The little pest sure can do a lot of flying. After all that exercise, a fly needs rest. What's the safest place for a fly to flee to? Your ceiling! There it can remain upside down, hanging by the hairy pads on its feet. Because these pads are coated with a glue-like substance, a fly can walk upside down—even on glass.



Heavy Hang-Ups Young opossums can do a special trick that their parents can't copy. They wrap their strong tails around a tree limb and let go. As the little fellows hang there, it looks like fun. But there's a practical reason for these hang-ups. This trick frees all four feet to grab some food. As the opossum grows, it becomes too heavy to hang by its tail anymore.



Head Over Heels Only male birds of paradise hang upside down. They do it to show off. During breeding season, a male does a hopping dance—right side up. Then he flips upside down. That gives him a chance to show off his colorful feathers. He dances until he wins a mate. These birds really fall head over heels in love!

Rescue in Space

A NEW GADGET GIVES
ASTRONAUTS A LIFT

by Bob Nichols

The astronaut carefully attaches a jet backpack to his spacesuit. Then, opening the hatch of his spaceship, he steps out—a lonely figure in deepest space. With a flick of his hand, he fires the jets of the backpack. The thrust gently moves him toward a nearby satellite that is spinning out of control. His mission: To save the crippled satellite so earthbound scientists can collect important information.

Does this sound like a scene from a new science fiction adventure? The start of a new episode of "Star Wars"? Not quite. In fact, a space shuttle astronaut could be floating through space by next month. There he will attempt a feat that no astronaut has ever performed before. With the help of a new invention that works like

a jet backpack, he will step outside the shuttle and try to repair a satellite.

Solar Max Rescue

As the six-day rescue mission begins, the space shuttle *Challenger* will be orbiting 307 miles above the earth. Ready and waiting to get to work will be astronauts George Nelson and James van Hoften. When the shuttle's airlock door opens, both of them will step out of the crew compartment and into the payload bay. That's the cargo hold in the back of the shuttle.

First, Nelson and van Hoften will hook their safety lines to the shuttle. The lines will prevent them from floating away into space.

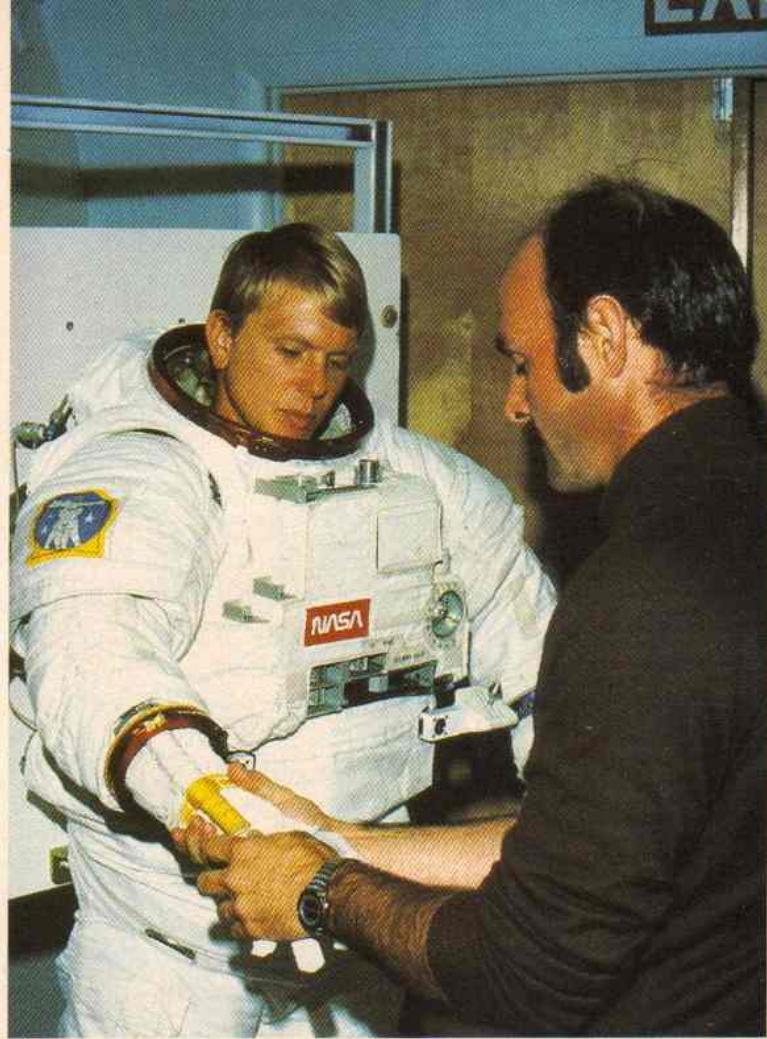
Once they are safely hooked up, the two

astronauts can look through the outside door of the payload bay. Just 300 feet away is their repair target, the Solar Maximum Mission satellite. It's called "Solar Max," for short.

Solar Max is the most advanced satellite ever built for studying the sun. It has instruments for measuring the sun's energy. Using Solar Max, scientists hoped to learn more about how the sun affects the earth's environment. But Solar Max is no longer working. Soon after it was launched in 1980, it started to spin out of control.

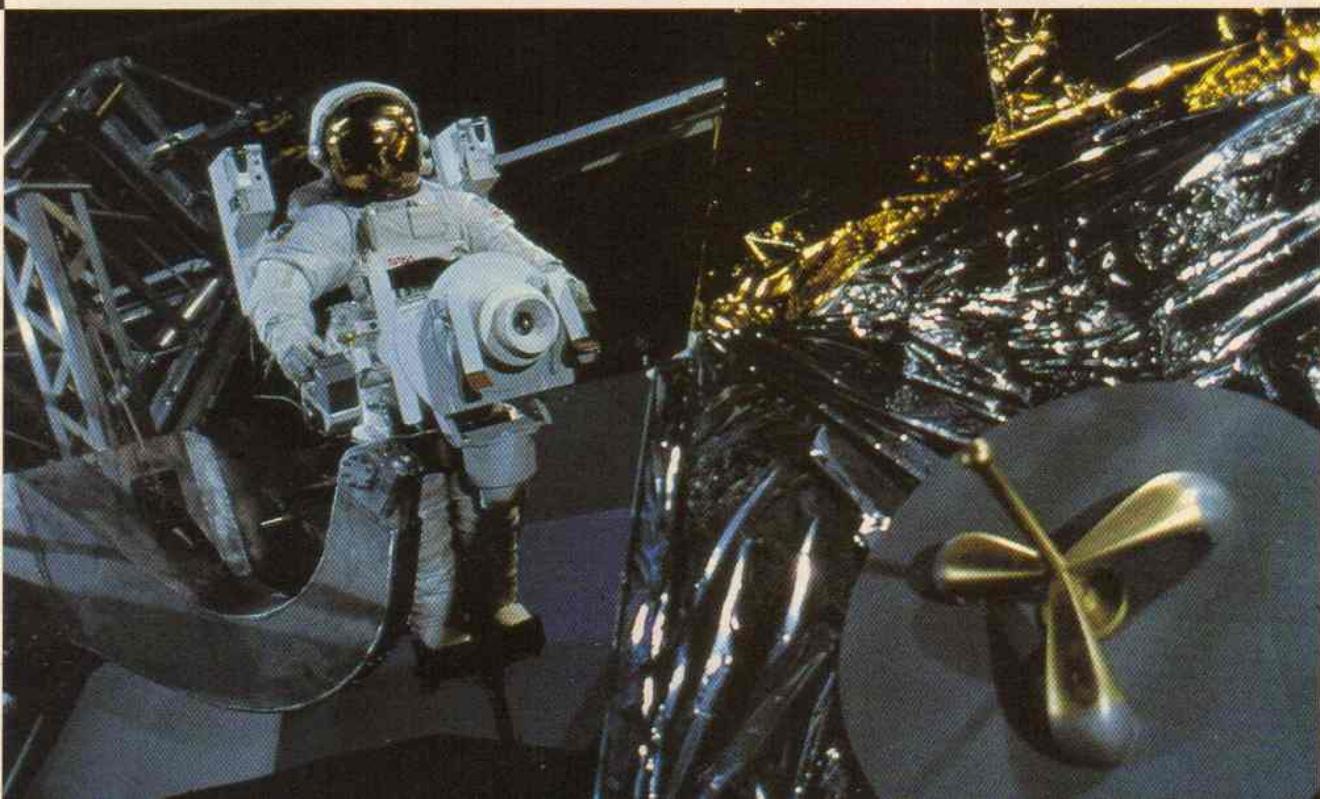
As the mission to rescue the solar satellite begins, George Nelson will attach his Manned Maneuvering Unit (MMU) to the back of his spacesuit. The invention is made of aluminum and other strong but lightweight metals. It is powered by nitrogen gas jets and steered by hand controls. Using the hand controls, Nelson will be able to fly gently in any direction in space. Or he can simply stay in one place.

Moving out of the payload bay, George Nelson will fire the gas jets for the first time. The gadget on his back will let him operate like a one-person spaceship. It will be only the second time he or any other human being has traveled in space alone like this. Nelson says, "It's really going to be a lot of fun to fly the MMU." ➤



Above: Astronaut George Nelson tries on his new spacesuit.

Below: This is how Nelson will look as he slowly flies through space and approaches the solar satellite.



Stop That Spin

Slowly, the astronaut will fly over to the spinning satellite. "I will not be zipping around with the MMU," Nelson explains. "I will not fly very fast. Only about six inches per second." That's less than one mile per hour. But once you're floating in space where there's no gravity, it's all the speed you need to get around.

Nelson's first task is to stop Solar Max from spinning. First, he'll fire the MMU jets again and start spinning himself. When Nelson and the satellite are spinning at the same speed, he will move forward.

Grabbing Solar Max with a special clamp, the astronaut and the satellite begin to spin together. The MMU's jets will automatically fire again, and slow down the spin until both the astronaut and the satellite come to a stop.

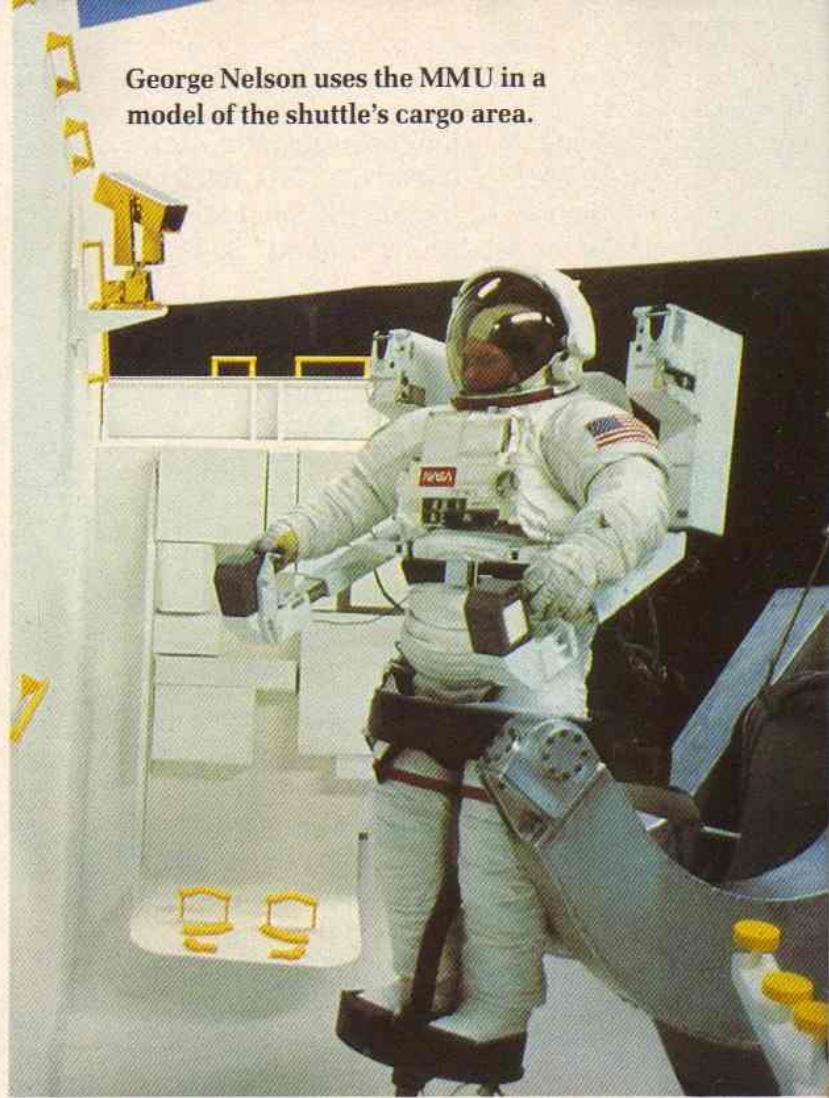
Then Challenger can move closer to it. That's when other astronauts inside the shuttle will go into action. They'll reach out toward the satellite by using the shuttle's giant computerized arm. The arm will retrieve Solar Max and place it on a work platform in the payload bay.

Then actual satellite repair will begin with James van Hoften doing most of the work. Nelson says, "I'll help by going back and forth getting tools for van Hoften." The astronauts' first job is to fix the part that caused Solar Max to spin out of control. They hope to finish that work fairly quickly. Later in the mission, they will replace the satellite's broken electrical box. It was supposed to supply electricity to some of Solar Max's instruments. This job will be more difficult.

When the two astronauts have finished, the satellite can continue its orbit. If all goes according to plan, George Nelson and James van Hoften will have saved a very valuable satellite. Thanks to them—and to the MMU—Solar Max will send important information to scientists for years to come.

Right: Here's how the space shuttle will appear to George Nelson as he floats through space.

George Nelson uses the MMU in a model of the shuttle's cargo area.

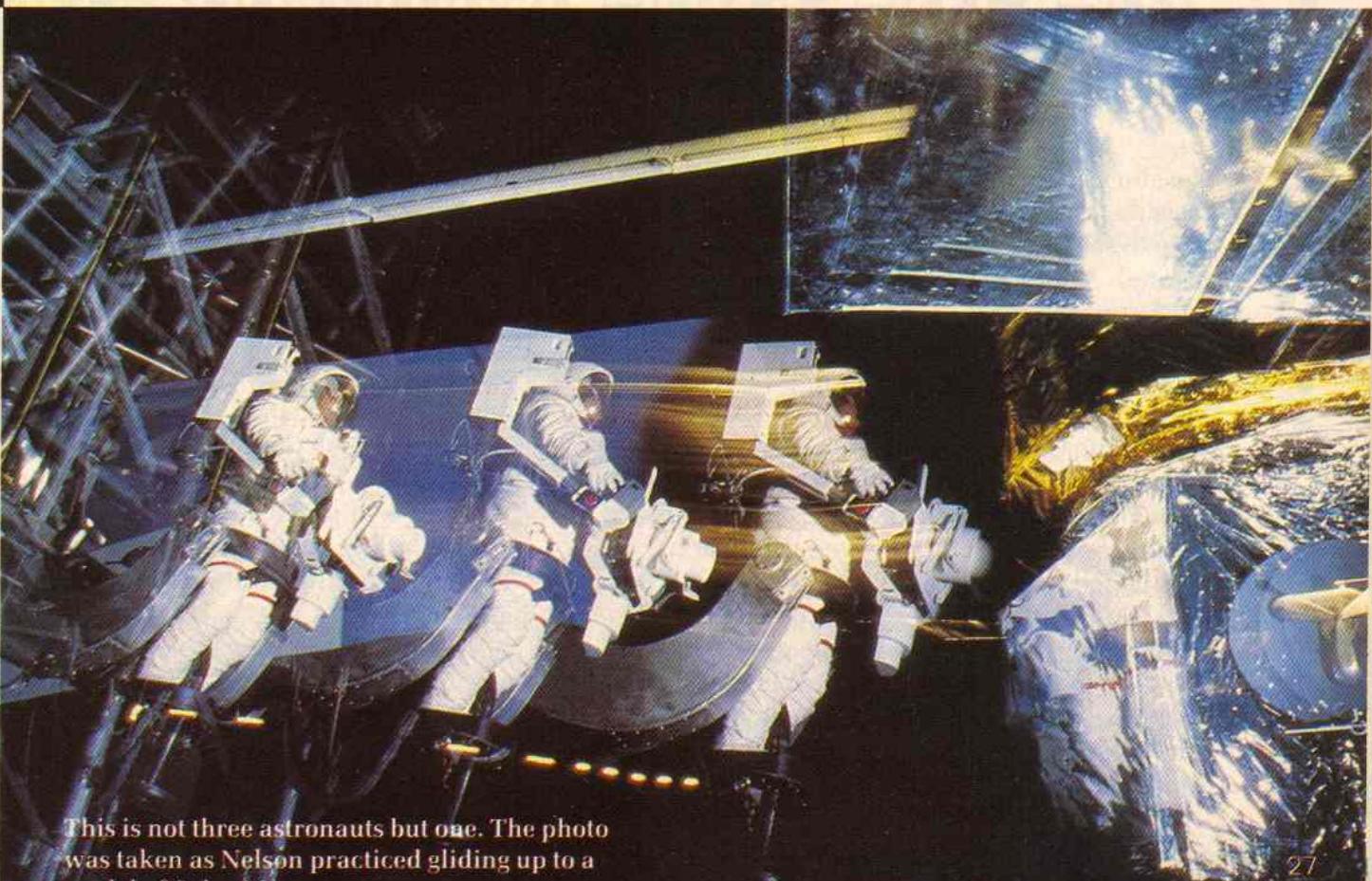
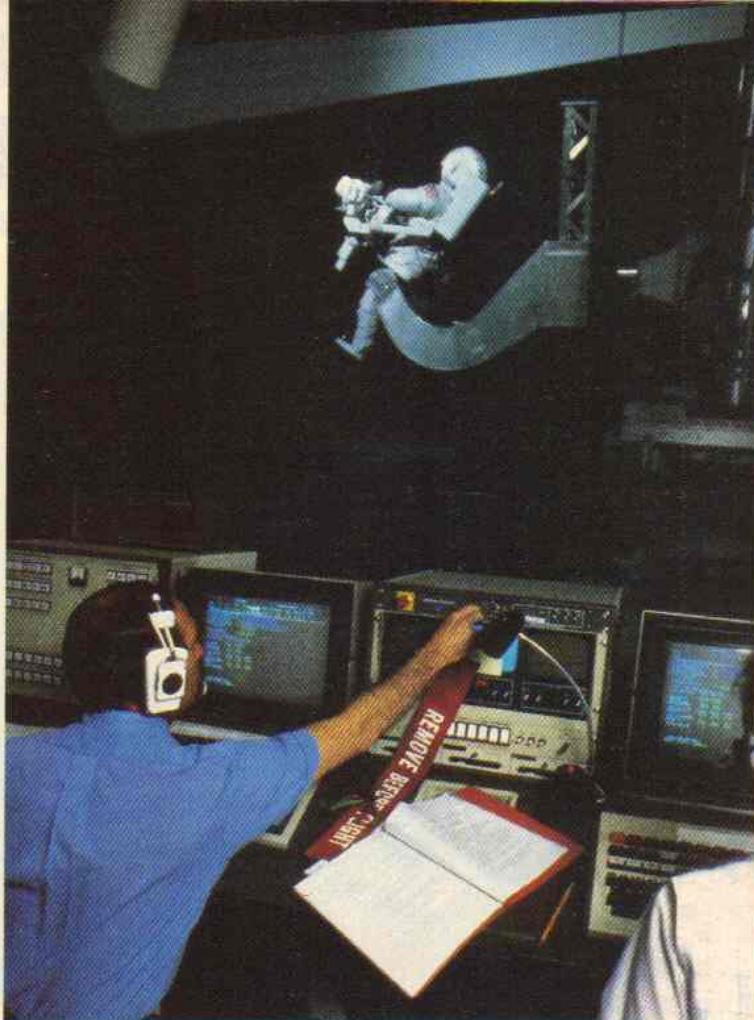


More Uses for the MMU

Nifty as MMUs are, they aren't available at your neighborhood toy store. These gadgets can be used only in space. For one thing, MMUs are heavy. They weigh 300 pounds when filled with nitrogen gas. And MMU jets are not strong enough to lift earthbound people off the ground. But in space, where there's no gravity, an MMU is like a magic carpet.

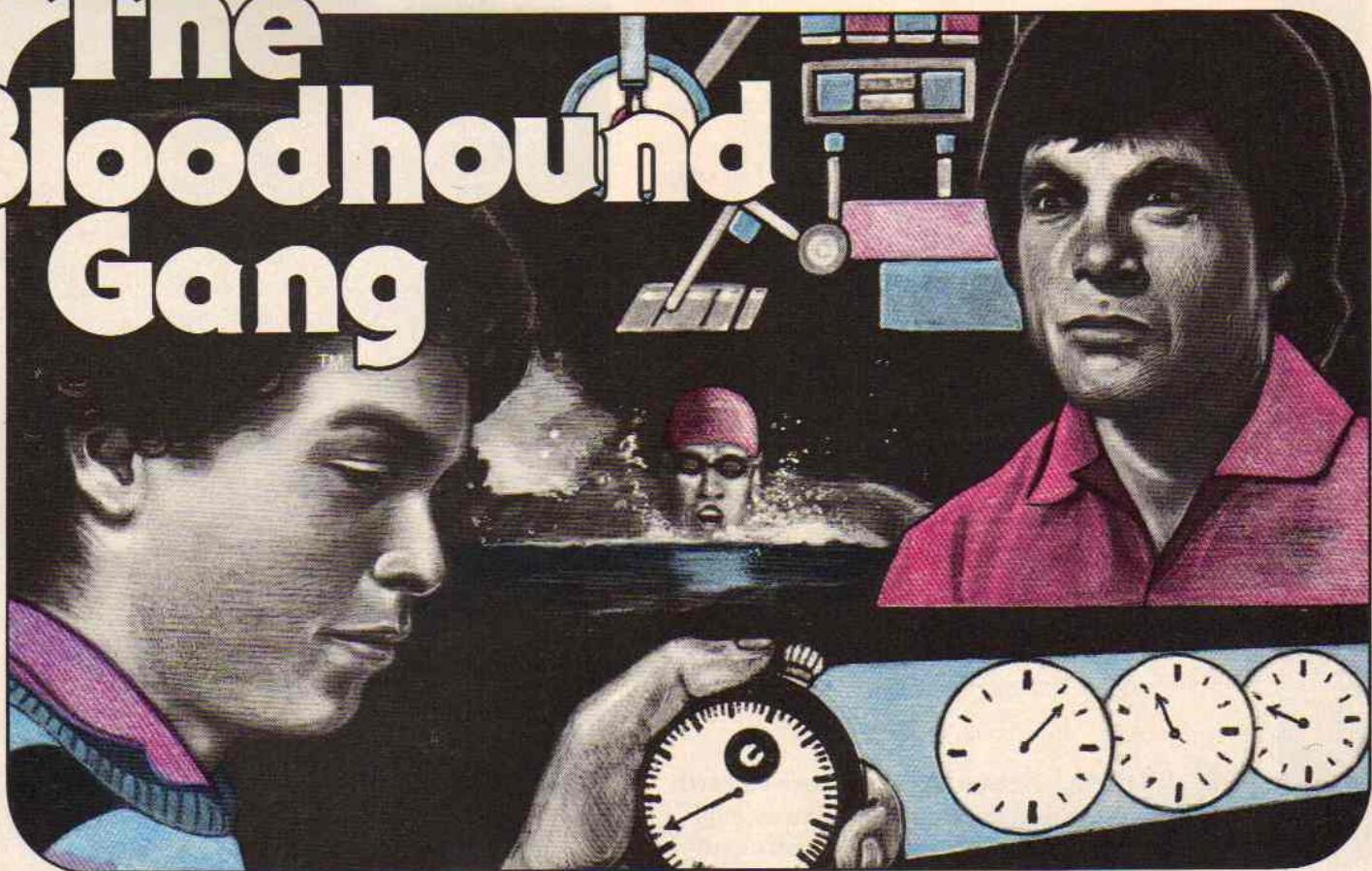
For space pioneers, the Solar Max rescue is just the beginning for using MMUs. Future astronauts will use MMUs to repair other satellites. MMUs will also let scientists float in space to perform experiments. And when space stations are built, MMUs will move the builders as they work. The sky's the limit with so many future uses for this handy invention!

Right: George Nelson has to practice on earth before the space rescue begins. Here an engineer works the controls while the astronaut learns what to do.



This is not three astronauts but one. The photo was taken as Nelson practiced gliding up to a model of Solar Max.

The Bloodhound Gang



The Case of the Swimming Scam

Part Two

by Bill McCay

The story so far: The Bloodhound Gang, Vikki, Ricardo, and Skip, investigated a swimming class to see if a friend of Vikki's had been cheated. After their friend took the class, she was supposed to swim 100 meters in one and a half minutes. But at swim team tryouts, it took her a lot longer.

Vikki signed up at Hank Bodd's Special Swimming Class, and was strapped into a Bodd-a-ciser, a machine which was supposed to do all the exercising for her. Computer-timed tests showed she had improved. But when Vikki tried to time herself and the other swimmers, she found watches were forbidden.

Ricardo got a job cleaning the pool, and used a water clock to time the class. When his clock disagreed with the computer clock, he stayed after class to look around. He found a keyboard attached to the clock, and a computer program.

Before he could look at it, Ricardo was grabbed from behind and thrown into the pool. What's worse, he couldn't swim!

"Keep calm," Ricardo told himself. "Try and float." He kicked his legs as fast as he could, trying to lie on his back. But he felt himself going under. Once...twice....

"Ricardo! Grab this!" Skip came racing along the side of the pool, a wooden pole in his hands.

Moments later, Ricardo sat on the edge of the pool, coughing and spitting out water. "Thanks," he said. "But...what are you doing here?"

"Vikki told me you wanted to look at that computer clock. So did I." He looked at Ricardo. "I didn't expect to practice lifesaving, too."

"I hate swimming." Ricardo got up. "If this were football..."

After Ricardo had changed into dry clothes, the Gang had a meeting. "The water clock proves that Hank Bodd and his helper are lying about the swimming times of the students," Vikki said.

"That keyboard attached to the computer clock shows how they do it," Ricardo added. "We also have this." He held a soggy piece of paper. "It was floating in the pool."

Skip read the page and said, "They must input this program into the clock every Friday. It makes the clock go a little slower with each test—and it's designed for use by someone who doesn't know much about computers."

"Well, Hank Bodd doesn't look like the type to be a computer whiz," Vikki said.

"I didn't think he'd be the type to throw me in the pool, either," exclaimed Ricardo.

Vikki looked at Ricardo. "I thought you said you didn't see the person who threw you in."

"No, but it had to be Bodd. It would take a pretty strong person to toss me like that."

Vikki frowned. "We'd better go back to the beginning. First, I'm going to call one of Mr. Bloodhound's police friends to get the full story on Hank Bodd. Then we need some solid proof that this swim class is a phony." She turned to Skip. "Could you get one of the exercise doctors you interviewed to examine me? Maybe we could prove the Bodd-a-ciser is useless."

A Doctor Blows the Whistle

Dr. Ann Parola was a friend of Mr. Bloodhound's, and a specialist in exercise. After examining Vikki, she said, "You're healthy."

"Yes, but am I exercised?" Vikki asked.

"I couldn't tell you that unless I had examined you before you started the exercise program. What sort of exercises did you do?"

Vikki explained about the Bodd-a-ciser.

"You mean, they put you in a machine that moves your arms and legs, and they call that exercise?" Dr. Parola stared at Vikki.

"Yes," she said.

The doctor shook her head. "No way. That does you no good at all. Reminds me of a guy a couple of years ago. Hooked a motor to his back with two rods to his legs. Called it an 'Automatic Jogger.' It was nonsense, of course. Exercise means conscious control of your muscles."

"After I finished on the machines, my muscles ached as much as if I'd really been exercising," Vikki said.

The doctor grabbed her arm. She bent it up and down, up and down. "If I kept this up, your arm would get tired. Even people who can't move their arms or legs feel tired after physical therapy—when a nurse moves the limbs for them. It sounds like your Mr. Bodd was once in that line of work."

"But you can't give us proof that he's cheating kids like Connie?" Vikki asked.

"All I can give you is my say-so that this Bodd-a-ciser is no way to exercise," Dr. Parola said. "You may swim a little better because you think you're in shape, but that's the only good it would do for you."

The doctor shook her head. "Kids exercise to get to the Olympics. But for every Donna Verona, there's a Mary Decker. Did you hear about her? She's a runner who needed operations on her legs because the muscles were too developed. Besides, how many people ever get good enough to be in the Olympics? Heavy exercise when you're too young is often not a great idea. Especially when somebody like this Bodd guy can cheat you. I'd like to make him eat that computer."

That made Skip smile. "Maybe we could do something to him," he said. "Fix it so his program would make the computer clock go wild."

Vikki began to grin. "Tell me more," she said.

The Story on Hank Bodd

The Gang got back to the office in time for a telephone call. Vikki answered. "Hello, Officer. You've got it? Great." She listened for a few minutes, then said, "Oh, really? I think that's all we need to know."

"What?" Skip and Ricardo asked.

"Hank Bodd has had many careers. He was a nurse at the Maywell Home for the Physically Disabled. Then he joined a circus as a strong man. Got in trouble cheating the customers. Then he worked in a junkyard, where he got friendly with an ex-convict named 'Fingers' Cogan."

"His assistant at the gym is named Mike Cogan," Ricardo said.

"Well, neither of them sound like computer ➤

geniuses," Skip said. "I'll get to work on that counter-program."

"We have a couple of days before Friday," Vikki said. "Time to get lots of things set up."

By the time Friday came, everybody in the exercise class was eager to see how much better they had gotten. "Take it easy!" Hank Bodd laughed. "We'll be ready in a minute."

The first swimmer began, but the computer clock flashed wildly. "It says I took an hour!" shouted the swimmer. "What's wrong with that clock?"

"Yeah, Mike," Hank Bodd said. "What's wrong with that clock?"

Mike Cogan looked nervous. "Uh, uh, I programmed it fine—I mean..." Suddenly, the clock went dark. "Looks like our clock is out of order," he said. "We'll have to call off the tests."

"Maybe not!" Ricardo said. "I've got an old stopwatch here in my pocket. We can use that!"

"Yeah! Yeah!" the eager students shouted.

Bodd looked unhappy. "We don't know that this watch is accurate."

"It may be a little off. But I'm sure it could give us at least an idea of our new times." Vikki clicked the watch. "Let's get going."

Bad Times Tell the Tale

The first student started swimming. When he finished, Vikki looked up. "Four minutes."

"Impossible," the man said. "That's hardly better than my first time. I knocked two minutes off that time in the last couple of weeks."

"Not according to this watch," Skip said.

"See?" Hank Bodd said loudly. "I told you the watch would be off."

"Two minutes off?" Vikki said. "I don't think so. Why don't we get another watch and check?"

The student got his watch from the locker room, and the swimming went on. No one came even close to their recent records. The class began to get angry. "N-n-now folks," Bodd said.

"You big bum!" one woman said. "You've been cheating us!"

"This is ridiculous," Bodd said. "From my years of study in this field, I should warn you that sometimes you fall back as you go along the road to perfection. Especially if you get, uh," he looked at the angry people around him, "upset."

Mike Cogan glared at Ricardo. "It's your fault! I saw you fiddling with our program for the clock!" Cogan turned toward the door. "I'm getting out of here!" he said. Bodd was right behind him.

Then they stopped in their tracks. A police officer stood in the doorway. "You guys keep going off before checking things out," he said. "The last time you rushed away, you didn't check to see if the person you threw in the pool could swim." He smiled. "Now you're all washed up."

Back at the office, the Gang explained to Connie Diver how she'd been taken in.

"I didn't feel so much stronger," she said. "But there was that big clock."

"It's not hard to believe when somebody's telling you something good about yourself," Ricardo said.

"Well, I learned something about exercises," Connie said. "From now on, I'll take it slow and steady."

Vikki laughed. "And that sounds like a good end to the Case of the Swimming Scam."

Next month begins a brand new adventure, starring the Bloodhound Gang!



Experiment

Build a Volcano

Now that you've read all about volcanoes, you probably want to see one erupt. No problem! You can build a mini-volcano in your backyard.

What You Need

dirt
a small bottle with a wide neck, or a can
a one-quart bottle or can
white vinegar
baking soda
red dye or food coloring
dishwashing liquid

What You Do

1. Make a mountain out of dirt. Bury the small bottle inside it. Make sure the opening of the bottle sticks out the top.
2. Pour 4 tablespoons of baking soda into the little bottle.

3. In the quart bottle, mix in $\frac{1}{2}$ cup of water, $\frac{1}{4}$ cup of dishwashing liquid and $\frac{1}{4}$ cup of vinegar. Add some of the red dye to make your mixture look more like lava.

4. Pour a little of the mixture from your quart bottle into the small bottle. (You should have enough mixture for more than one eruption.) If nothing happens right away, mix the stuff up with a stick. Then look out—"lava" should start erupting!

Why It Works

The baking soda and the vinegar mix together. They form carbon dioxide gas, like the bubbles in soda pop. The bubbles mix with your detergent to form the lava. In much the same way that magma mixed with gas rushes to the surface, your volcanic brew should come bubbling out.



MAIL

Memory Contest Winners In April 1983, we asked you to go years back and dig up your very first memory. Do you remember? Here are the winners.

That's Thumb Memory!

My first memory was when I was little and sucked my thumb. This girl who was a year younger than me sucked her thumb, too. One day she came over with a glove on her hand. I asked her why. She said it was because she sucked her thumb. I said in an astonished voice, "Does it taste better that way?"

Cathi Halecki, Wilmington, NC

A Sickening Memory

As I remember, when I was a kid our family had a boat and a trailer. The trailer was in Pine Flat. Every weekend we went up there. Oh, it was fun. Once we went to see Pine Flat Dam. Just looking down it made me feel like throwing up! We got rid of the boat and trailer.

Mark Heckman, La Habra, CA

She Was Four

One of the first things I can remember is when I was four years old I had open heart surgery. When I was in the hospital for it, a physical therapist called herself "Thumper" because she always had to come and pound on my chest and back to make me cough.

Colette Gundersen, Madison, WI

Yuck!

I can remember when I was four. I made my sister eat ants. I said, "Casey, eat these ants. They're yummy. I've tasted them before." (I hadn't really.) She was fascinated. Sure enough she ate them. She started crying right after she licked them off the ground.

Courtney Pedler, Salt Lake City, UT



Double Yuck!

When I was two years old, I stuck a worm in my mouth. At that time it tasted good.

Melissa Menger, Washington, MI

Bathing Beauty

My earliest memory is when I was two. I had just taken a bath and Mom had wrapped me up in two gigantic towels. I looked like a very short, fat kid with no arms.

Amy Worster, Auburn, NH

A Nosy Story

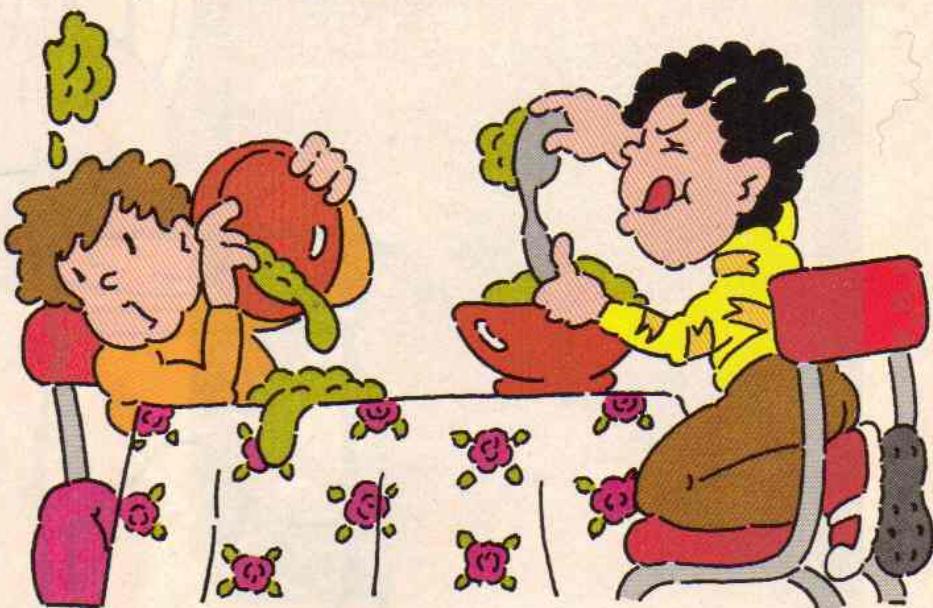
When I was three years old, I stuck a purple crayon up my nose when I was at the daycare center. The nurse at the center couldn't get the crayon out. So I had to be brought to my doctor. In the meantime my mother was called from her job to come to my doctor's office. The doctor couldn't get the crayon out with small tweezers so he used VERY long tweezers and he finally got the crayon out. This is the earliest and most exciting thing that happened to me.

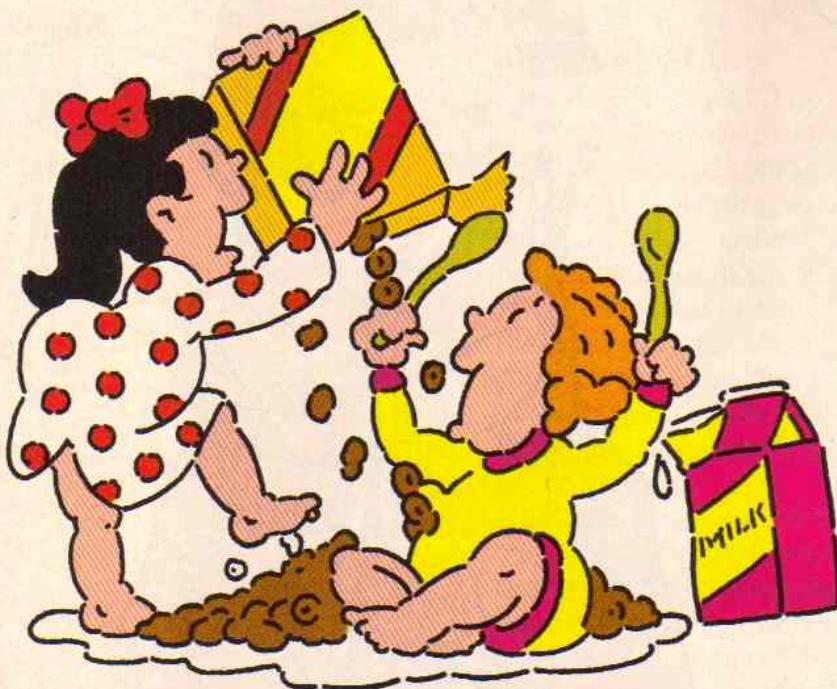
Keren Dexheimer, Buford, GA

Splat!

I can remember when my brother Dan and I were eating supper. My mom went to the store to get milk. We were eating applesauce when I said, "Hey, Dan, look here!" I put some applesauce on my spoon and shot it at him. He shot some back. We went all through the house. My mom came home and we got in big trouble!

Kevin Doney, Smithton, PA





A Messy Meal

My first memory was when I was two. It started one Saturday morning when my sister Stacie and I were hungry. My parents wanted to sleep late, so my sister, who was four, told me we would make breakfast ourselves. We went into the kitchen and opened up the refrigerator. Stacie got out the milk and water and poured it on the floor. I got out all the cereal and sugar we had, and poured it on the floor. We mixed it together by squishing it with our feet. The thing I remember most was the spanking we got afterward.

Paige Peake, Dallas, TX

Grape on Wheels?

My first memory was when I was three. I saw a purple bus. Then I said, "A grape bus!"

Mindy Christopher, Gilbert, MN

Let's Dance

The first memory was putting a bowl on my head and running around the room trying to dance. I was one.

Teri Fowler, Jayton, TX

Crying Over Spilt Cake

My first memory is when I was two and a half. I wanted to see the decoration on the cake my mom bought for a baby shower. I accidentally pulled it off the counter. Mom spanked me. I remember running to the couch with my blanket and crying.

Elizabeth Heisner, Delaware, OH



A Bloody Tale

My first memory is when I bit a tick. It was full of blood. My mom and dad thought I had a bloody lip until they saw the smushed tick. Every time I think about it I remember a little bit more.

Mark Lietzan, Novi, MI



A Colorful Memory

The first thing I remember was when I first saw a rainbow. It was the most beautiful thing I ever saw. And every day after it rains, I go outside to find one.

Jyotika Bahri, St. Joseph, MI

We Want Mail!

Dear Readers,

We really love hearing from you. The questions, ideas, and complaints we get help us make CONTACT a better magazine. So why not drop us a line? We can't answer every single letter, but we do read them all. Send your mail to: 3-2-1 CONTACT: Letters

P.O. Box 599
Ridgefield, NJ 07657

Extra!

This is not an ordinary Extra! This is EXTRA-ordinary! In honor of April Fools' Day, we'll show you all sorts of ways to fool people—even yourself.

Sip It Up

Give a friend a small glass of soda pop and a straw. She'll finish the drink pretty quickly. Then tell her that it would take longer if she had two straws. She probably won't believe you.

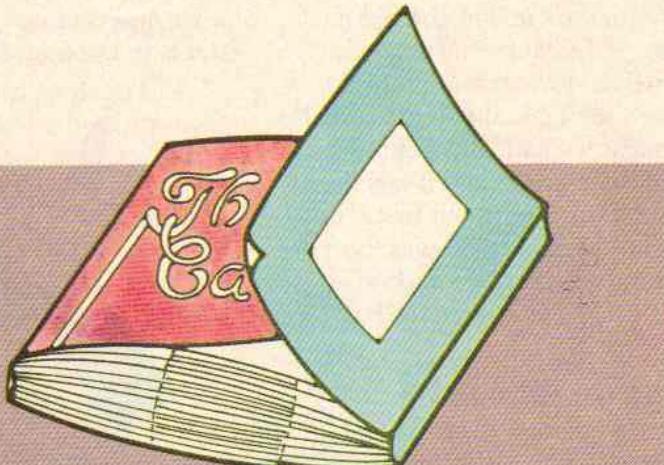
Refill the glass and get another straw. One straw stays in the glass. The second one goes in your friend's mouth, but not in the glass. (You never said it would!)

The second straw will put a leak in your friend's sucking system. She'll be lucky to get any soda pop out of the glass before her time runs out. Pretty tricky, huh?

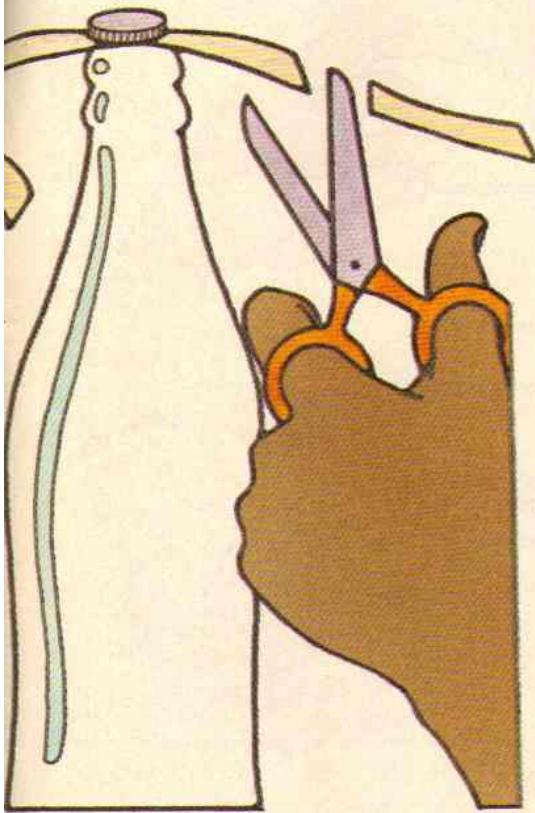


Fiction Friction Shuffle Stumper

You need two paperback books for this trick. Make sure they are about the same size. Open each book to the middle, and put them together as the picture below shows. Ask a friend to pull them apart. No problem!



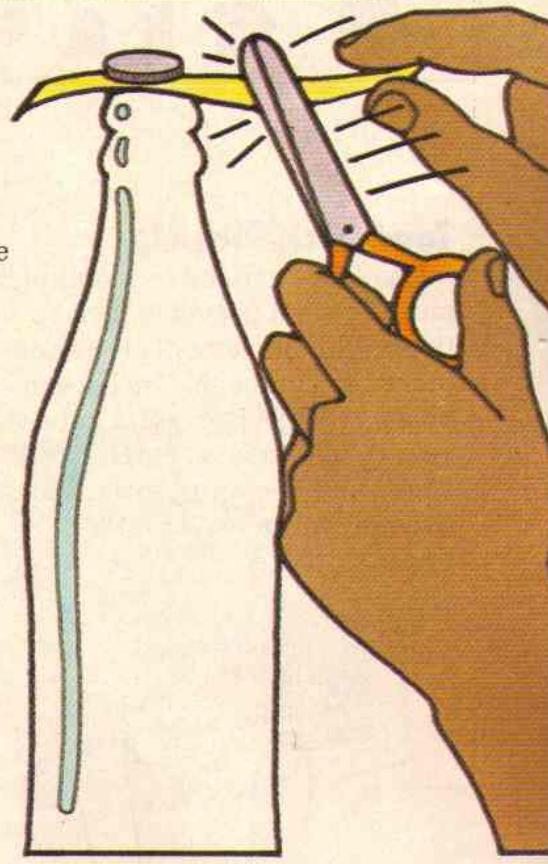
Now take the books and mix them together page by page, as if you were shuffling cards. When your friend tries to pull the books apart again, he won't be able to budge them. The extra friction of all the interlocked pages keeps the books "paper-bound."



Coin Caper

For this trick you'll need two quarters, a long strip of paper, an empty soda pop bottle, and a scissors. The paper goes on top of the bottle, and the quarters go on top of the paper. Challenge a friend to remove the paper without making the coins fall. No matter how carefully she pulls, fast or slow, the quarters will tumble. When your friend has had enough, say, "I'll show you how."

Take the scissors and cut off one end of the long paper strip. Then, holding tightly to the other end of the strip, hit the paper with the scissors. The paper will scoot out from under the quarters. But thanks to a force that keeps objects resting where they are—*inertia*—the quarters won't even move.



The Paper Thick Trick

All you need for this trick is a piece of paper—and an unsuspecting friend. Ask your friend if he can fold the paper in half ten times. "Of course," he'll say. It seems easy, but it isn't. For

each fold he makes, he'll have double the thickness of paper to fold on the next try. If he's lucky and gets up to eight folds, he'll be holding a wad of paper 256 sheets thick—as big as a book!

Hand-Rotten Signatures

You can sign your name—or can you? Try this trick and see. Sit down with a pencil and a piece of paper. Close your eyes and write your name. Easy, right?

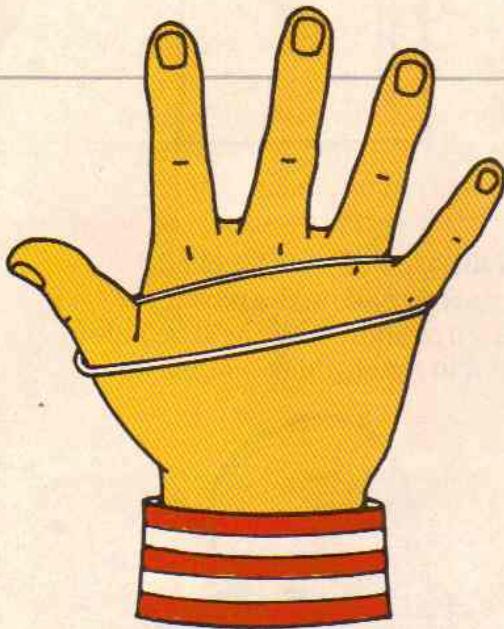
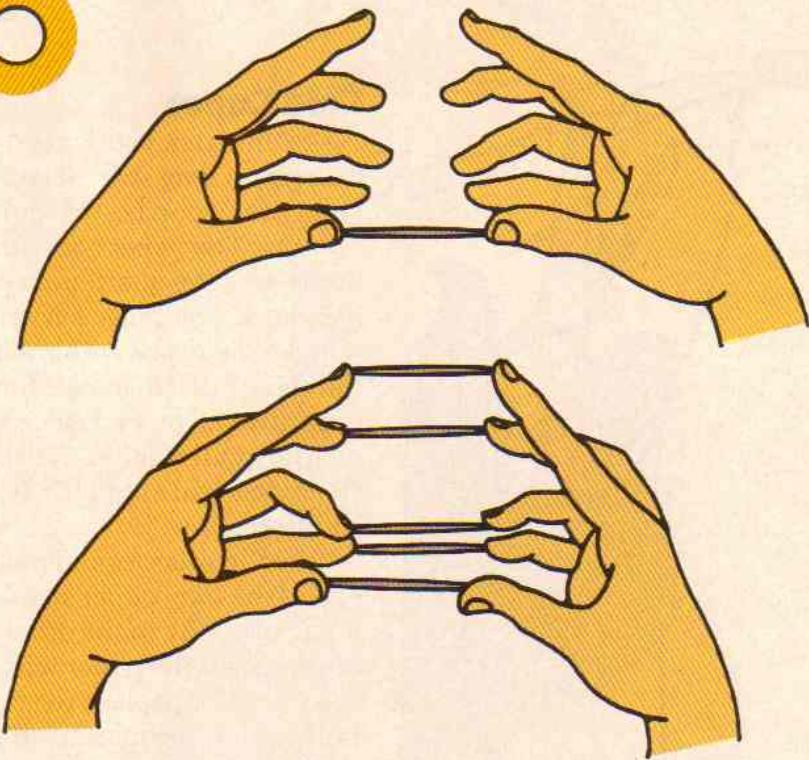
Close your eyes and try again. But this time, move your foot in a circle on the floor. If you're right-handed, move your right foot in a circle on the floor. If you're left-handed, use your left foot. Make sure your foot goes in circles as you write. When you're finished, look at your name. It probably looks like baby scrawls. Now find a friend to try this April Fools' trick on.



Extra!

Toothpick Pick-Up

Challenge a friend to a toothpick race. The first person to pick up five toothpicks wins. There's one picky catch, though. You have to pick up the first toothpick between your thumbs, the second between your forefingers, and so on. May the best and quickest picker-upper win!



The Great Escape

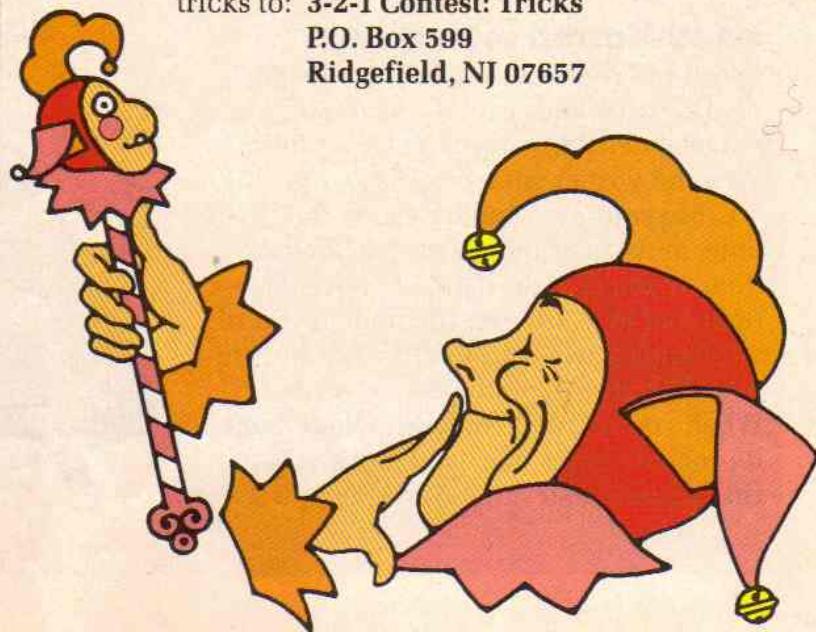
This trick lets you turn a rubber band into a fiendish trap that is almost impossible to escape!

Take a friend's right hand and hang the rubber band on her pinkie. Then stretch the rubber band across the back of her hand. Put the other end over her thumb—right down where it joins the hand. Now your friend has to get out of the rubber band without shaking it off, using her left hand, or her teeth! She won't be able to do it—unless she's double-jointed.

The Trickiest Contest Yet

We've come up with some pretty sneaky tricks, but we bet you have a couple up your sleeves. Send in your favorite April Fools' trick. All we ask is that it doesn't hurt people, or destroy property. We can't wait to see what you've got in store for us. And by the way, we'll be very careful opening this month's mail. If your trick stumps us, you'll get a T-shirt. Send your tricks to: **3-2-1 Contest: Tricks**

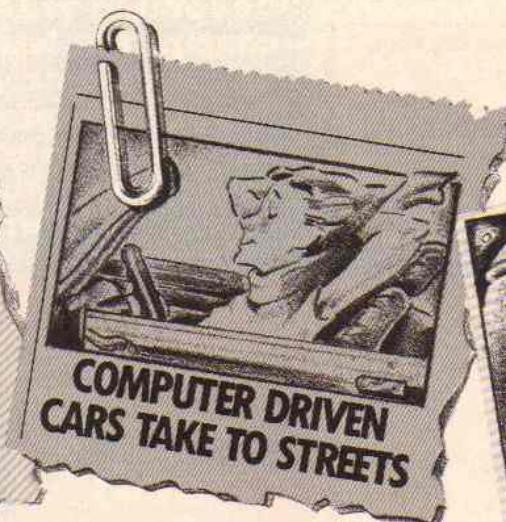
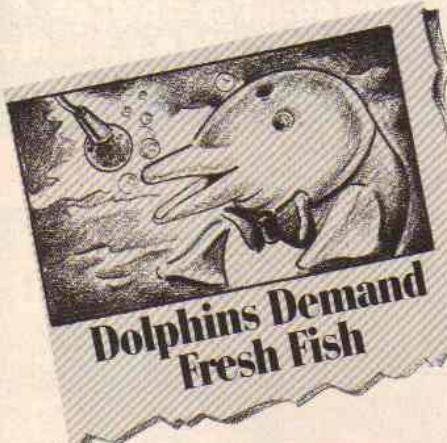
P.O. Box 599
Ridgefield, NJ 07657



Did It!?

Trick or Truth? (page 12)

The fakes are:



Thank You Thanks to Billie Deason of NASA for help with the story about the solar satellite rescue. Thanks also to Jim Griggs for his help with photos for the Hawaii Volcano Observatory story.

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Here's a sample of what you'll find in the next issue of 3-2-1- CONTACT:

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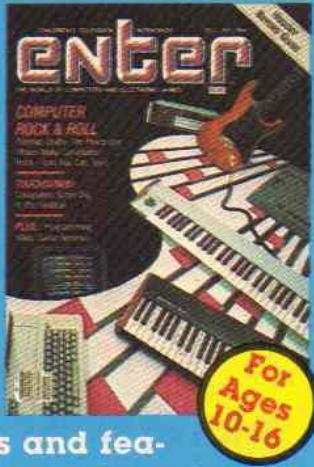
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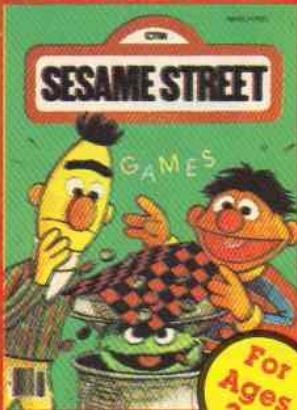
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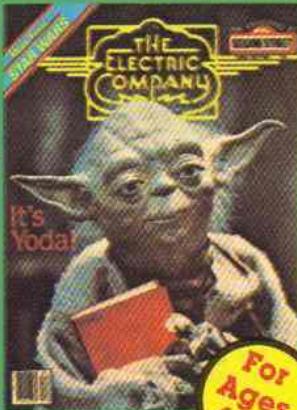
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For
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Earthfacts: Islands

Each month CONTACT will bring you another Earth Works. Save these pages in a notebook. Soon you will have your own guide to the wonders of the planet earth.

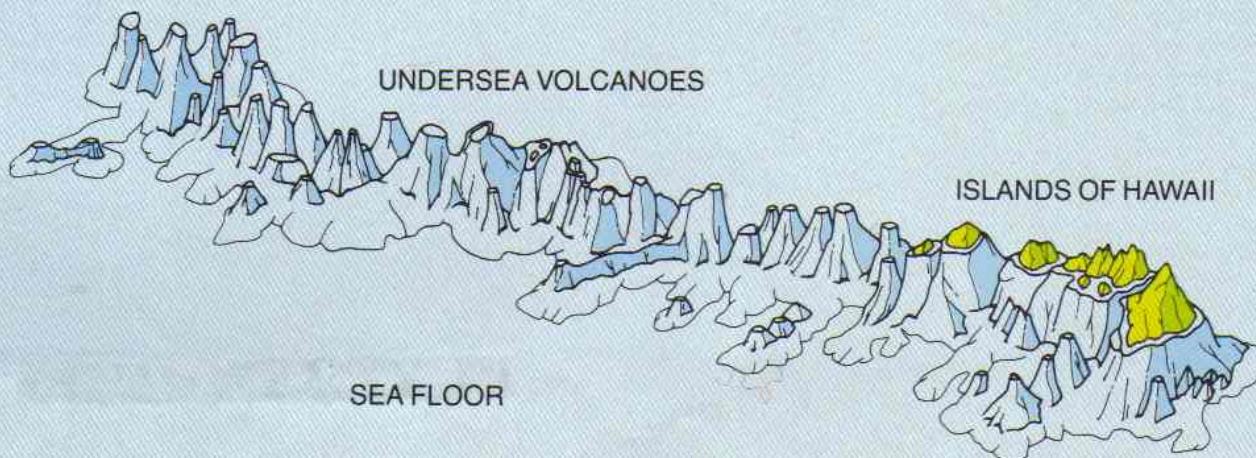
- ➊ An island is land surrounded by water.
- ➋ Sometimes islands disappear forever under the waves when the sea level rises. Islands that are really volcano tops can be destroyed when the volcanoes explode.
- ➌ New islands can form, too. The world's newest island is Lateiki. It rose out of the south Pacific after a volcano erupted in 1979.
- ➍ One of the next islands to appear may be in the Caribbean Sea. Many of the islands there are volcano tops. But one that's underwater has been spouting steam and smoke. It's called Kick-'em-Jenny. In the last 22 years, Kick-'em-Jenny has grown 240 feet (73 m) closer to the surface of the sea. It will break through the water as a new island by the year 2000.
- ➎ Greenland is the world's largest island. If you could stretch it out across the United States, it would reach from New York City to Denver. That's a distance of nearly 1,800 miles (2896 km).
- ➏ Mont St. Michel is a small island off the coast of France—at least some of the time. At low tide Mont St. Michel is not an island. It's connected to the mainland by a low, marshy

EarthWorks

piece of land. When high tide rolls in, the water covers the piece of land—and Mont St. Michel becomes an island again.

- ➐ An archipelago is a group of islands. The largest one in the world forms the country of Indonesia. It has 13,000 islands that form a chain 3,500 miles (5,630 km) long.
- ➑ Some islands of today were not always islands. Thousands of years ago, Great Britain was connected to Europe. But about 10,000 years ago, after the last Ice Age, the sea rose. The land connecting Great Britain to the mainland got flooded. Great Britain became an island.
- ➒ Some islands are full of strange mysteries. Easter Island, in the middle of the Pacific, has hundreds of giant stone heads standing on it. The carved heads have been around for hundreds of years. But no one knows who made them or why they were put there.

Below: This drawing of the sea floor near Hawaii shows that there are many volcanoes below the surface. But only a few rise above the sea to form Hawaii's eight main islands.



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Islands

This island off the coast of Iceland is one of the youngest in the world. It's only 21 years old. It was born in 1963 when a crack in the ocean floor began to spout lava and ash. The material piled up until a small dot of land broke through the surface of the Atlantic. The new island was named Surtsey.

Scientists have closely watched the development of life on the tiny island. First seagulls and other birds came for a look. Then insects appeared. Surtsey is still a barren place. But it may provide important clues to how life comes to islands. For more on islands, turn to page 39.

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